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ORIGINAL COMMUNICATIONS.

ART. I. *On the Cultivation of the Fine Arts in Germany.* By JOHN WOOLLEY.

(Read at a Meeting of the Architectural Society, December 22. 1836.)

I BELIEVE that at this moment there is no country in Europe so justly celebrated for its successful cultivation of the fine arts as Germany. But, while the daily increasing literary intercourse between England and that country is more and more productive of mutually augmented esteem and improvement, and the works of the poet, the philosopher, and the historian are reciprocally understood and appreciated in either country, it must be acknowledged that the painter, the sculptor, and the architect are comparatively strangers to each other's merit.

This disproportionate interchange of ideas on matters of art arises partly, I am aware, from the nature of the works themselves; for, while the genius of Shakspeare shines as brightly on the cultivated mind in the remotest corner of the globe as on the banks of the Avon, and while the fame of Wieland and Göthe extends to countries where the very name of Weimar is unknown, the creations of the painter, the sculptor, but especially of the architect, to be appreciated, must be visited, and viewed in the place of their birth. Their subtle excellences evaporate in the copy, and still more in the description. In this important distinction between the works of literature and art, I am aware, consists the chief cause of their unequal dissemination: but still I think that prejudice has some share in adding to the evil.

Little is comparatively known, save the mere mention of their names in books of tourists, of the magnificent fresco paintings with which Häss, Cornelius, Schnorr have adorned the public buildings and palaces of Germany. Little is known of the German disciples of Lysippus, though Tieck, Rauch, Schwanthahr, Mayer well deserve the title; and I think the very names of Schinkel and Klenze may be unknown to many who pronounce

all modern architecture, without exception, to be "wretched and disgraceful."

I must here entreat your indulgence for what, I am sensible, will be rather a digression; but *modern* architecture, in the strictest sense of the word, forming the subject of my remarks, I feel that I cannot proceed to illustrate my ideas of its merits from the modern buildings of the Germans, until I have said a few words on the aspersions recently cast upon those of our own countrymen.

There is not, indeed, a more favourite subject for the exercise of satire and abuse than modern architecture. We read of the "wretched state of architecture at the present day:" in fact, this is the title of a chapter in a book written entirely to prove, or I should rather say to assert, the truth of this sweeping anathema. We are told "of such public monuments as Buckingham Palace, the new National Gallery, the new buildings of the British Museum, the Board of Trade, and of all the principal edifices lately erected, that their very existence is a national disgrace," and that a just sense of these various degradations, and a wish to advance the cause of truth over error, call for these candid remarks.

For the success of this laudable and difficult project, something beyond mere vague assertions must be advanced. That they are bold, unqualified, and without respect to persons, is the only merit of these assertions, since they are utterly unsupported by any form of argument. We are not told why any of these monuments, thus held up to derision, are "a national disgrace;" nor is there any reason assigned, unless it is that they are not Gothic monuments, and are guilty of not having been built during "the glorious middle ages." The only means which the author takes to "advance the cause of truth over error," is by means of "contrasts," where contrast cannot possibly exist; namely, between Gothic and Grecian architecture. By this I by no means intend to depreciate Gothic architecture; and even the trite remark, that between styles so utterly dissimilar no comparison can be drawn, though one may be preferred to the other, I should have thought impertinent, but for Mr. Pugin's contrasts. Gothic has been aptly styled a distinct language; the Italian, but a dialect of the Grecian, and, as such, certainly inferior to the original tongue. Now, since contrast is to be the test of modern merit, let it be where contrast may be fairly instituted; and, since it will be something gained to show that we have improved a little upon the works which immediately preceded us, let us take a specimen of the taste of the last two centuries, composed of broken entablatures and pediments, frightful balustrades and attics, bulging wooden-looking pillars raised upon high plinths, and monstrous broken-backed scrolls

rising in huge contortions the whole height of an entire Lilliputian order. These would not contain more of caricature than Mr. Pugin's contrasts: such things existed, and do exist: they were the faults, it has been said, more of the age, unenlightened by a Stuart, than of the architect. But, whether misfortune or faults, they were admired and executed in the days of the Joneses, the Adams, the Kents, and Burlingtons; and now, since we must needs enter into invidious comparisons in self-defence, who, I would ask, can place such a jumble of disproportions by the side of any of the before-mentioned modern "monuments of national disgrace," and not feel convinced that we have more reason to indulge in congratulation on the improvement that has taken place, than in complaints of the degeneracy of modern architecture.

To the arguments of those who, after allowing the merit of Grecian art, exclaim, "But are we for ever condemned to imitate, and never to create; doomed for ever to the servile repetition of the same ideas and forms on which the sun has looked for the last two thousand years?" to these outcries for deliverance from the Greeks and Romans, which have been so often and so ably answered, I will only add the testimony of Klenze in the Vorwort to his remarks on the Glyptothek at Munich:—"In the proper and extended sense of the word, architecture embraces two principal epochs in its ultimate formation; namely, that in which *horizontal* coverings to openings and apertures only were known, and that which arose upon the invention and application of the arch. When we investigate and unite the principles of this twofold consummation of Grecian architecture; and while, in our modern practice, we ever keep in view the precious monuments of antiquity which remain to us both in Greece and in Rome (im eigentlichen Griechenland und in den römischen Staaten); Grecian architecture must be the architecture of the world and of all time; and there is no material, no diversity of usages, no climate, which can set limits to its application."

To prove that creative genius and originality may exist in strict conformity with this devotion to the remains of antiquity, and that their worship can never become "a creed outworn," I would wish for no better examples than those to be found in the architecture of Prussia and Bavaria, and that, too, in edifices erected since the commencement of the present century.

The Brandenburg Gate, erected in Berlin by Gotthard Langhane in 1789, was one of the first symptoms of the German reformation from bad French and Italian taste, and return to the models of Greece; since it is a *free* imitation of the Propylea at Athens; that is to say, it has no pediment, and the entablature is surmounted by an attic, upon which stands a quadriga with a

figure of Victory bearing aloft the Prussian eagle. During the French invasion, this car was torn down, and sent, among other works of art, to Paris. The Prussians have now regained their goddess, together with the right to place her once more in triumph over this fine entrance to their city. On account of these associations, added to its own merits; and, although by no means faultless, it certainly possesses many; the Brandenburg Gate may justify the boast of the Prussians, that it is the finest entrance to the finest city and street (the Unter den Linden) in Germany.

To Schinkel, then, Berlin is chiefly indebted for its architectural fame, from the numerous public and private buildings with which he has had the good fortune to adorn it, "in a spirit worthy of Greece itself." Though his forte is Grecian architecture, he has not confined his studies to that style, nor, indeed, to architecture alone; since he has displayed first-rate talent, both in painting and sculpture. Some of his designs for vases, fountains, &c., have been published by the Technischer Deputation of Berlin; the paintings which ornament the theatres of Hamburg and Berlin are from his own designs; and he painted the cartoons for the frescoes which are intended to adorn the external walls of his new museum. They are appropriate to the building for which they are designed, being illustrative of the dawn and progress of art. There has been some delay in the completion of this portion of the decoration of his building; and though, as Schinkel expresses it, "*Sie sind bis jetzt nur Wünsche des Architekten*" (they exist, hitherto, but in the wishes of the architect), they will, no doubt, be eventually executed. I have been told by artists who saw these cartoons when exhibited in Schinkel's house in Berlin, that they were not to be surpassed for poetic imagination.

I may here mention that a school of fresco painting has been established at Munich, under the direction of Cornelius, Schnorr and others; and the perfection to which it has been carried there, both in internal and external decoration, has awakened repeated regret, in all who have beheld this beautiful union of painting and architecture, that it is not cultivated in England. Mrs. Jameson's enthusiastic and eloquent remark upon the subject is well worthy of quotation:—"Often have I walked up and down these superb rooms, looking up at Schnorr and his assistants, watching the progress of the fresco paintings with which this palace is being adorned (the new palace at Munich, designed by L. von Klenze); and often have I thought, What would Etty, Briggs, Hilton, or Martin,—oh, what would they give, to have two or three hundred feet of space before them, to cover at will, with glorious creations like these, scenes from Chaucer, Spenser, Shakspeare, or Milton! proudly conscious they were painting for posterity. Alas, how different! with us,

such men as Etty and Hilton illustrate annuals; and the genius of Turner shrinks into a vignette."

The study of the works of Schinkel impress the mind at once with the feeling that they are the offspring of genius which is not confined to one branch of art; that they have been conceived under the conviction that the poet, the painter, and the sculptor must be united in the architect who aspires to be something beyond a mere builder. The words remind me of a remark of the professor of anatomy in his late elegant introductory lecture at the Royal Academy, when expatiating on the varied attainments necessary to constitute preeminence in works which demand creative imagination and genius:—"We frequently hear talk," said he, "of a mere mathematician, of a mere engineer, of a mere anatomist: but a mere poet, a mere historical painter, a mere sculptor, are words without meaning, or mean only no poet, no painter, no sculptor all." A mere architect is, I am sure, quite as much a contradiction in terms, and might have been added to the list with at least equal justice: but Mr. Green forgot that architecture was one of the fine arts; and at the Royal Academy this is, unhappily, more matter of regret than surprise.

I shall now offer a few remarks on the Königlichen Schauspielhaus, the new Royal Theatre at Berlin, as figured in Schinkel's *Sammlung Architectonischer Entwürfe*, and described in his accompanying notes; which building has been unfortunate enough to incur the criticism of several recent tourists. One remarks that it has not entered into the head of any other architect in the world, to place two pediments, one over the other, in the same building; that the body and wings are disfigured by two rows of thin tapering windows, &c.; and compares the pedimented attic to a paper manufactory. Another says that the Ionic portico is in itself a fine object; but that it is difficult to conceive how the architect who reared it could have crowded into the body of the edifice every fault which such a building can possess; that the second pediment offends the eye mortally; and that, in a building where no daylight is required, the edifice is slit in every direction by narrow insignificant windows, &c. In reply to this, I cannot do better than translate Schinkel's own remarks upon the peculiarities of the building. He says, "To pronounce judgment upon fair grounds on the merits of a building of considerable extent, a knowledge of the conditions and limitations which moulded its interior and exterior forms and arrangements is indispensably necessary. For the designs of the new theatre, I consider the statement of these restrictions especially necessary; since restrictions so numerous and so complicated have seldom been united together in one building. Many persons, with imperfect and limited perception, believe

themselves able to improve portions of the entire work; while ignorance of the difficulty of bringing the multitudinous and opposing portions into connexion with each other makes them blind to the fatal effects which these partial improvements would have upon the harmony of the whole."

He then goes on to state the dimensions supplied him by the streets running into the platz, or square, in which the theatre is built; and the restrictions which his plan was limited to by the peristyles of the two churches occupying each end of the square which will be seen on reference to the plan, and before which the peristyle of the theatre dared not advance. He states that he was obliged to use a very considerable portion of the walls of the old theatre which remained standing after the fire; and enumerates other particulars and limitations, unknown and unenquired into by those who pronounce the edifice to be a very doubtful specimen of national genius; but in which, however, the principal features of the theatre had their birth, and in which consisted the difficulty of adapting an architectural whole appropriate to its own destination, and, at the same time in harmony with the other buildings of the surrounding platz.

The building consists of three principal divisions: that appropriated to the theatre itself; the second, for its necessary offices and apartments; and the third, a splendid saloon, with anterooms, &c., for concerts and musical exhibitions. Here daylight was essentially necessary; so that one third of the principal façade required to be slit into windows. The theatre itself, of course, demanded the first consideration; and it therefore occupies the centre, as the most conspicuous part of the edifice; and for this reason, and to give the required height, it is carried up above the rest of the building, and has its own pediment and peristyle towards the square. Thus the edifice consists of three separate buildings under one roof; and the danger of fire, which destroyed its predecessor, is considerably diminished.

In describing the style of architecture, Schinkel says: "In general, as far as the peculiar limitations of the building would allow, I have endeavoured to follow the Grecian form and construction. All arches and curved lines have been therefore strictly avoided in the exterior, and likewise in the interior of the principal rooms, and the construction of horizontal architraves attended to throughout. The construction of the pilasters, like those of the edifices of Greece (those of Thrasyllus at Athens, for example), appeared to me to be more in harmony with the peristyle of the façade, and to correspond more with the character of a public building, than the usual fashion of windows; while, at the same time, I obtained more light for the interior, otherwise a difficulty in a building of such depth."

The decoration consists of rich architectural members and

sculpture. That in the lower pediment represents the history of Niobe, admirably designed and executed by Christian Tieck, professor of sculpture, and brother of Ludwig Tieck of Munich, the first living poet and writer of Germany. The figures at the apex and extremities of the pediment represent the muses Polyhymnia, Melpomene, and Thalia.

The new Museum at Berlin, another of the buildings figured in Schinkel's work, is situated in the finest part of the city, in the midst of a constellation of magnificent buildings. It consists of a basement, a principal floor, and a suite of corresponding apartments above. The lower story is for the reception of sculpture, the one above for painting, and the basement contains the necessary offices and apartments. The principal front consists of an open colonnade of eighteen Ionic columns, and two antæ; under which monuments to modern men of genius are intended to be placed in security from the weather. The basement story in this elevation forms a solid stylobate, on which the columns rest, broken only in the centre by the grand steps, which occupy the width of seven intercolumniations. Four columns in antis occupy the centre within the portico; and the entrance is by the five consequent intercolumniations leading to the doorway of the rotunda on the ground story, and to the external staircase, seen between the columns, leading to the gallery of the rotunda and one-pair story. The receding wall, behind the columns, is enriched throughout the lower portion with compartments inlaid with variegated marbles and bas-reliefs; and the upper portion is to be adorned with the fresco paintings relating to the destination of the building, which I mentioned before as being not yet executed. These decorations, seen between the columns, are intended to give the whole a light appearance; and, from the effect of what is already completed, it will eminently answer the purpose. The statues on each side of the steps are not yet put up: they are those of the munificent founder of the institution and his successor. "As to the style of architecture," says Schinkel, "which pervades the exterior as well as the interior of the building, simplicity has been my chief object. The extensiveness of the area on which the building stands, the immediate vicinity of the royal palace, the sumptuous zeughaus (arsenal), &c., demanded vastness of proportion; for which reason, instead of indicating the two principal floors by two distinct one over the other standing orders, I have preferred carrying up one single order, constituting the lofty colonnade. This colonnade refers, in the architectural connexion of the whole (*im architektonischer Zusammenhang des Ganzen*), to the grand centre formed by the rotunda, which takes in the height of more than both floors, and, therefore, is proportioned to this central portion of the building. The same Ionic entablature and sub-

structure is carried all round the building; the four angles are adorned with the pilasters of the order; and thus a simple and vast feature is produced, to which the interior division into two floors is entirely subordinate. The quadrangular superstructure for the concealment of the dome, raised upon the principal mass of the building, presents a marked centre; and it was therefore necessary that it should possess significant decoration. The figures at the angles of this principal front represent Dioscuri with their horses, and the golden stars on their foreheads, known to us in the mythology as beings of protection and prosperity, and, therefore, appropriate to an edifice which can flourish only under such auspices. The museum was opened at the latter end of the year 1828. In front of the grand steps stands a colossal red granite vase, and in the centre of the extensive area in front of the museum, planted with trees, and formed by the Dom Kirche, the royal palace, and the Spree, is a fountain of water constantly playing."

The third modern German building that I shall notice is the Wacht Gebäude, appropriated to the king's chief guard, which is figured and described in the same work. The plan of the building, which is entirely isolated, is nearly that of the ancient Roman castrum; and the four massive corner towers and the interior court, are the results of the same imitation. The latter (the interior court) serves for the admission of light by windows, and other arrangements, which would otherwise be visible from the open area which surrounds the building on all sides. The material is Saxon sandstone. The sculpture in the pediment represents a battle. A female figure of Victory in the centre decides in favour of the heroes of the just cause; who are Prussians by the eagle on their shields. On her left are represented the rallying to battle, final struggles, spoliation, and domestic grief, which await her fatal decree; while on the right are wailings over a fallen hero. In the frieze, the place of triglyphs is supplied by supporting Victories, displaying wreaths and crowns as rewards for the brave. The two marble statues on either side are those of Generals Bülow and Scharnhorst, by Christian Rauch of Berlin, professor of sculpture in the Academy of Arts; and these two statues alone, not to mention his other exquisite works, are of merit to entitle him to the very first rank among living artists. The whole appearance of the Haupt Wache is simple and majestic, and worthy of the hero to whom we owe no small portion of the glory of 1815.

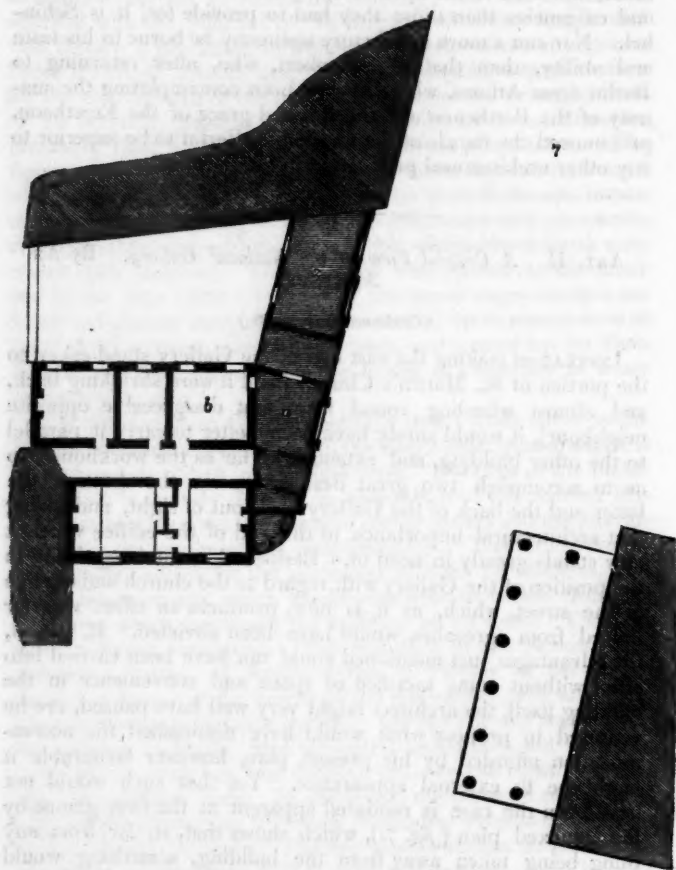
I cannot close this very imperfect notice of Schinkel with a more just tribute to his merit than that paid to him in the last number of the *Foreign Quarterly Review*:—"If any one has conceived his subjects in the true spirit of Grecian architecture, designing as its best masters would have done had they lived in our

times, and been called upon to apply their art to other purposes and exigencies than those they had to provide for, it is Schinkel. Nor can a more satisfactory testimony be borne to his taste and ability, than that of Schaubert, who, after returning to Berlin from Athens, where he had been contemplating the majesty of the Parthenon and the finished grace of the Erechtheon, pronounced the façade of the museum at Berlin to be superior to any other architectural production in all Europe."

ART. II. *A Critical View of the National Gallery.* By AN AMATEUR.

(Continued from p. 28.)

INSTEAD of making the east end of the Gallery stand askew to the portico of St. Martin's Church (as if it were shrinking back, and almost wheeling round from that disagreeable opposite neighbour), it would surely have been better to carry it parallel to the other building, and extend it as far as the workhouse, so as to accomplish two great desiderata; viz. the shutting the latter and the back of the Gallery itself out of sight, and giving that architectural importance to this end of the edifice which it now stands greatly in need of. Besides this, the irregularity in the position of the Gallery with regard to the church and the line of the street, which, as it is now, produces an effect very far indeed from agreeable, would have been obviated. If, indeed, the advantages just mentioned could not have been carried into effect without some sacrifice of space and convenience in the building itself, the architect might very well have paused, ere he ventured to propose what would have diminished the accommodation afforded by his present plan, however favourable it might be to external appearance. Yet that such would not have been the case is rendered apparent at the first glance by the annexed plan (*fig. 7.*), which shows that, so far from any thing being taken away from the building, something would have been added: enough to have afforded room at a for a staircase, leading immediately to the Lecture Room; which would have been a far preferable situation for it, inasmuch as it would have been immediately adjoining the entrance at this end of the building; consequently, those who attended the lectures would have passed up it at once, without at all intruding on the keeper's private residence; between which and the outer vestibule there would have been a door of separation, as well as of communication. Besides being well placed for such other purpose, this staircase would have been somewhat more roomy than the present one, and, therefore, more convenient for conveying pictures



up stairs into the Great Room. The other staircase might still have been retained, as at present, in lieu of the small one which is placed at *b*; and which being got rid of, the rooms on that side of the corridor are somewhat enlarged. The two rooms on the south side of this corridor have only three windows, in order to make this part of the exterior accord with the rest of the façade; where (as will be seen by referring to the elevation, *fig. 1.* p. 25.; or to the ground plan, *fig. 10.*) there are only three windows on each side of the portals to the thoroughfares.

Thus not only is the number of the windows and niches diminished and equalised (both which circumstances I consider desirable rather than not), but a centre window is also obtained in each of these *arrière-corps*; and this, it will hardly be denied, is an improvement in the composition. On the other hand, I freely admit that is not effected without some sacrifice in the interior of the eastern wing; because one of the two front rooms of the keeper's residence can have only a single window; and, were it partitioned off from the other, so as to bring the window in the centre of the side of the room, that room would be rendered very much smaller than the adjoining one. In order, therefore, to equalise them, in some degree, as to size, they are divided according to the mode shown in the above plan; where it will be seen that the larger room has a recess brought forward into it, forming a smaller one on each side of it, in one of which would be a second window; and this bay (for such it may be considered) would throw a great deal of light into that angle of the room. In both rooms, the architectural symmetry, in respect to the position of the windows, would be kept up by slight breaks in the walls, and corresponding mouldings on the ceiling; though the plan is on by far too small a scale to allow of such minutiae being pointed out in it; and, in fact, such particulars would require to be expressed by means of sections or internal elevations of the sides of each room. For what may, after all, be deemed objectionable in this part of the plan, necessity must be the excuse; and, in an edifice of this description, it is, I conceive, allowable enough that such a subordinate portion of the interior as the keeper's residence should be made to give way to what concerns the façade, rather than *vice versa*.

The part *z* in the plan, on the north side of the eastern thoroughfare into Duke's Court, might be built upon or not, as occasion should require. Yet, even were that portion of the eastern façade to remain a mere screen, without any rooms behind it, the thoroughfare itself must be enclosed on both sides. Well aware am I that there would have been difficulties first of all to be got over, before what is here recommended could have been carried into effect; but they might have been materially lessened by giving up to the premises against which the building would thus be made to abut the piece of ground *z*, as indemnification for the inconvenience sustained; the condition being that the windows, in the part so added to them, should look into Duke's Court.

An elevation of the eastern façade, as thus reshaped and extended, is shown in *fig. 8.*, which the reader may compare with that in *p. 27. fig. 2.*

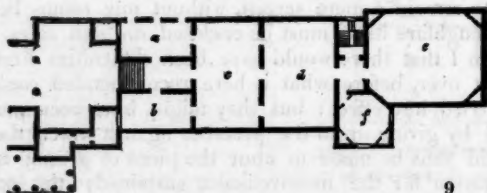
The curve, with the two columns in it, at the south angle, would not, indeed, totally conceal the oblique position of the

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two fronts with regard to each other, but it would prevent that obliquity from being at all offensive: neither could it be objected that this curve would require that there should be a similar one at the western extremity of the principal façade, the extremities themselves being set considerably back, and the distance between them being so great, that they can hardly be seen at the same time from any point of view, more than at the Bank.

Fig. 9. gives the plan of the upper half of the building; namely, that belonging to the Royal Academy, from which the whole of that floor may be perfectly understood; the two halves being in every respect similar. How far the architect has economised the space allowed him will be seen almost at a glance; for the whole of the space between the staircase on this side and the corresponding one opposite (that is, an extent of 100 ft.) constitutes merely the upper part of the entrance halls, and the intervening one, which separates them from each other. Undoubtedly, there will here be considerable effect, enhanced, moreover, by the two screens of columns on the level of this floor, through which a view will be obtained from the landing of one



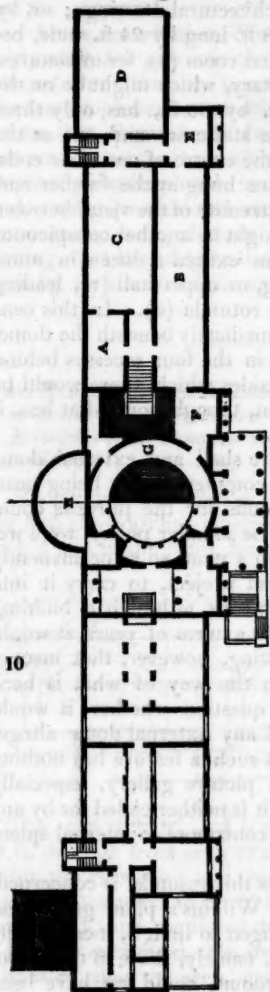
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staircase to that of the other. These screens, however, are in themselves rather meagre, there being only two columns in each, although there is ample room for four, without rendering the intercolumns too narrow; especially as, if even were they inconveniently narrow, supposing them to be where persons would have to pass through them, here they are intended for no such

purpose, but merely form open ranges of columns resting upon walls.

Even admitting that what is thus bestowed on the entrances and approaches could very well be spared for the purpose, still the display here made cannot be other than unfavourable to the picture rooms themselves; which, owing to such striking contrast, must, when first entered, appear smaller than they really are; *a* and *b* in *fig. 9*. (the first to be appropriated to architectural drawings, the other to models) being only 35 ft. by 19 ft.; and *c* and *d* 50 ft. by 32 ft. and 35 ft. respectively. The room *c*, or Antique Academy, is entered, not at one end, but at its side; and has, besides, no fewer than six doors, which greatly abridge what is technically called the *line*; and the spaces between the doors are reduced to about 9 ft.; which width, if the pictures are to be properly hung, cannot be entirely covered with pictures, else those who look at them must be subject to perpetual annoyance and interruption from persons brushing by them as they pass from one room into another. The room for the architectural drawings (*a*) is likewise very much abridged by one of its sides being cut up by windows, the necessity for which is not at all apparent; because the corresponding one (*b*) is lighted by a skylight. From the School of Painting (*d*) we pass on, through a lobby, on one side of which is the secretary's room (*f*), into the Lecture Room (*e*), or Great Room, as it is more generally designated.

Throughout the whole of this arrangement of the interior, there appears to me to be very little of merit, study, or contrivance. What kind of arrangement I should have preferred will be seen by the plan *fig. 10*, one half of which shows the upper floor and exhibition rooms of the



Academy, the other the lower floor of the National Gallery, with the thoroughfare into the barracks.

On ascending the stairs, we should turn on the left into *A*, which would be, as before, for the architectural drawings; or, by the opposite door, enter a gallery 108 ft. long by 24 ft. wide, beyond which there would be an additional room (*E*), for miniatures, &c., instead of an office for the secretary, which might be on the lower floor. *C*, which measures 68 ft. by 30 ft., has only three doors, two at the end adjoining the staircase, and one at the other; and *D* would have a door in the centre of one of its ends, immediately facing a principal picture hung at the further end of the room; while at the opposite extremity of the vista, between the doors at the west end of *C*, there might be another conspicuous painting. The models, which seldom exceed a dozen in number, might be placed on the landing, or upper hall (*F*), leading from *B* into the upper gallery of the rotunda (*G*). In this central circular hall, which would be immediately beneath the dome, works of sculpture might be placed in the four recesses behind the peristyle of columns below; besides which, there would be the sculpture room (*H*), as at present, though somewhat less, it being reduced to an exact semicircle.

In regard to this rotunda, the mere shell and external dome might have been erected at first, the completion of it being postponed indefinitely, until sufficient funds for the purpose could be provided: and, perhaps, it would be sounder policy, were we, instead of curtailing and cutting down a plan, so as permanently to mar the whole of an architectural project, to carry it into execution progressively; by which means, although a building might remain partially incomplete for a term of years, it would ultimately be more perfect. Admitting, however, that insuperable pecuniary difficulties stood in the way of what is here recommended, it would then be a question whether it would not have been better to have omitted any external dome altogether; and it must be confessed that such a feature has nothing particularly to recommend it for a picture gallery, especially when, as in Mr. Wilkins's building, it is neither called for by any thing in the plan itself, nor made to contribute to internal splendour.

Admitting, however, that, as far as this rotunda is concerned, I have, without at all enlarging Mr. Wilkins's plan, greatly exceeded the point to which he was obliged to limit it, it can hardly be objected that the other variations, namely, those in the disposition and forms of the exhibition rooms, could not have been adopted without material increase of expense, or without requiring the design to be remodeled throughout. In fact, my object has been to show how, while still adhering to the general outline of his present building, Mr. Wilkins might have filled it

up better both externally and internally. What I have done, therefore, is to be regarded merely as correcting the defects I impute to it, and not at all as what I myself should have proposed for the purpose.

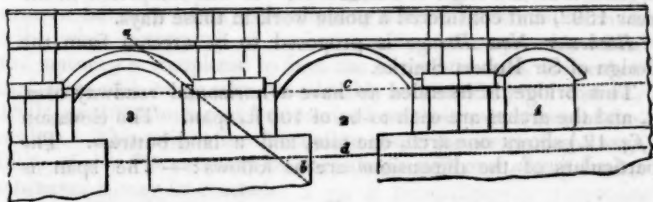
I know not whether Mr. Wilkins will say that it is exceedingly easy for any one to improve upon a design when once shaped out (that is, supposing he will admit that there is the least improvement manifested in my sketches); yet it appears to me that, there should be no room left for improvement, unless we choose to lose sight altogether of what the architect originally contemplated: much less ought a professional man, and, among professional men, least of all Mr. Wilkins, to fall into errors, both of taste and of judgment, so offensive and glaring, that they may be detected, and might have been avoided, even by such an *imbécille* as

AN AMATEUR.

ART. III. *Experimental Essays on the Principles of Construction in Arches, Piers, Buttresses, &c.* By WILLIAM BLAND. Essay VI. *Relative to the Practical Application of the foregoing Principles to Bridges.*

ROCHESTER Old Bridge.—The diagram fig. 11. represents the first three arches adjoining Stroud. The dimensions of the arch 3 and of the piers, &c., are as follows:—

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The span is 30 ft., and is not quite semicircular; the piers are 22 ft. through from arch to arch; the width of the piers is 22 ft. within the cutwater; and the height of the piers above the solid ground is assumed to be 26 ft. The line *c* represents the high-water mark, and the line *d* the low-water mark.

Having submitted this arch and piers to experiment, the results were, that the arch, composed of voussoirs only, and the piers, carried 49 lb. on the crown; which, at the proportionate rate of 9 tons to 1 lb., equals 441 tons. The experimental model employed was on the scale of 1 in. to 18 in. of the bridge, therefore a cubic inch contained $3\frac{1}{2}$ cubic feet; and as 20 cubic

inches of the model weighed half a pound, equalling $67\frac{1}{2}$ cubic feet, and 15 cubic feet of stone is a ton, then half a pound equals $4\frac{1}{2}$ tons. The width of the model was only two sevenths of the bridge, and balanced with 14 lb., or, on the whole width, 49 lb.; which, at 9 tons to a pound, equals the sum stated above of 441 tons. With an equal and similar arch abutting against the first, having one foot on a pier common to both, and the two outside piers immovable, either arch carried 22 lb. on two sevenths of the width, therefore 77 lb. on the whole width; equalling 693 tons. This weight is quite sufficient to prove the stability of the structure under consideration; which stability and strength are the results of the great thickness of the piers, which allow the straight line $a b$ to be drawn within the masonry, from the top of the road over the crown of the arch, to nearly the bottom of the assumed height of the pier. The proportion of the diameter of the pier to the span of the arch is, in this instance, as 22 is to 30.

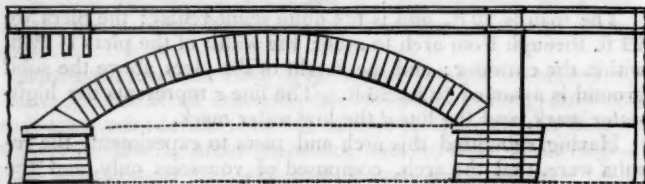
This building was constructed upon similar principles to those employed in the erection of Old London Bridge; having irregular-sized small arches, with large piers standing upon a foundation of piles, and protected by wide starlings, which causes a dangerous flow of water at every rise and fall of the tide. To remedy this evil in a degree, the two centre arches of Rochester Bridge were lately thrown into one, and the structure now has ten arches.

Sir Robert Knolles, who was the founder of this bridge, erected it in the reign of Richard II. It was completed in the year 1392, and considered a noble work in those days.

Rochester New Bridge is proposed to be erected from the design of Sir Robert Smirke.

This bridge is intended to have a horizontal roadway over it, and the arches are each to be of 100 ft. span. The elevation (*fig. 12.*) shows one arch, one pier, and a land buttress. The particulars of the dimensions are as follows:—The span is

12



100 ft.; the rise 15 ft.; the curve of the arch is the segment of a large circle; the thickness of the piers from arch to arch is 16 ft., or one sixth of the span; and the width of the piers is

about 30 ft., the breadth of the bridge being 28 ft. The height of the piers is assumed to be 20 ft.

On constructing a model, to a scale of the proportion of 4 ft. to 1 in., and putting the same to experiment, it proved that an arch of the dimensions of *fig. 12.* just balanced on piers 16 ft. thick and 16 ft. high. From the figure, it will be seen that the dimensions of the pier increase in thickness from the springing of the arch downwards; consequently, this increase of base adds materially to the stability of the pier, which, if allowed to equal 20 ft. at the base, will balance the arch upon it when raised to 20 ft. in height. When the arch was bricked up level with the crown from pier to pier, it carried 1 lb. on the crown. With another arch equal and similar, abutting against the first, having the two end piers immovable, and the two arches composed of voussoirs only, either of them carried 9 lb.

It has been before mentioned, that the scale of the model equalled 4 ft. to 1 in.; but the width of the voussoirs was only 4 in., or 16 ft., which is about half the true width. Now, 20 cubic inches of the model equalled half a pound, and 1 cubic inch bears the proportion of 64 cubic feet; which, when multiplied by twenty, gives 1280 cubic feet to half a pound. A ton contains 15 cubic feet of stone; therefore, half a pound of the model equals 85 tons, or 1 lb. equals 170 tons; which latter was the weight the arch balanced under when the haunches and space over the pier were filled up level with the crown of the arch of half the proper width. The whole width, then, would balance with nearly 340 tons, the pier having no counteracting arch or buttress. But with abutting arches, the model carried 9 lb., when composed of voussoirs only; consequently, when the masonry is completed to form the horizontal road, the arches and piers will carry very considerably more than 9 lb.: indeed, 18 lb., or 3060 tons, may be sustained on the crown of any of the arches. This weight is sufficient to prove the strength and stability of this fine structure for the safe passage over of any loads, whenever it may be erected.

The great difference between Rochester Old Bridge and the proposed new one, as planned by Sir Robert Smirke, is in the thickness of the piers of the former bridge, to those of the latter, when the spans of the arches of both are considered; the one being three fourths of the span, the other one sixth.

Waterloo Bridge.— This masterpiece of bridges, the work of Mr. Rennie, was finished and opened in the year 1817. It consists of nine cycloidal arches, each of 120 ft. span, with a horizontal roadway.

Fig. 13. exhibits one arch and two piers. The span of the arch is here drawn, for convenience, more after the elliptic form, than that of the cycloid. The thickness of the piers is 20 ft.,



which is one sixth of the span of the arch. The width of the piers is from 46 ft. to 50 ft., and their height is assumed to be 25 ft. The model employed for experiment was on the scale of 1 in. to 5 ft.; and, being 4 in. wide, it equalled two fifths of the width of the bridge.

The model arch, when composed of voussoirs only, balanced on piers 4 in. thick and 5 in. high; that is, on piers 20 ft. thick and 25 ft. high. When the arch had the haunches and spaces over the piers raised with wooden bricks to the level of the crown, it balanced with $2\frac{1}{2}$ lb. placed on the crown. Another arch, of equal and similar dimensions, being placed with one foot on the same pier as the first, which then became a middle pier, the two outside piers being made immovable, and both arches composed of voussoirs only, either arch balanced under the weight of 5 lb.

The scale of the model being 1 in. to 5 ft., there are, in proportion, 125 cubic feet in 1 cubic inch; and, since 20 cubic inches of the model equal the weight of half a pound, then 2500 cubic feet will be in proportion to the same weight. Now, 15 cubic feet of stone equals 1 ton; therefore, there are, in proportion, 166 tons in half a pound; and in $2\frac{1}{2}$ lb., 830 tons; which latter is the weight the arch and piers will balance under, when it has masonry to the level of the crown. Let it be remembered that this $2\frac{1}{2}$ lb. is supported by only two fifths of the width of the arch, which latter would, if of the full width, carry 2075 tons. With another arch abutting against the first, either of them will then balance with just double of the above weight when composed of voussoirs only, or 4150 tons; consequently, with masonry to complete the bridge, either of the arches would sustain considerably more. From this, it is apparent that 6, 20, or even 50, tons would have no effect towards disturbing the equilibrium of this superb fabric.

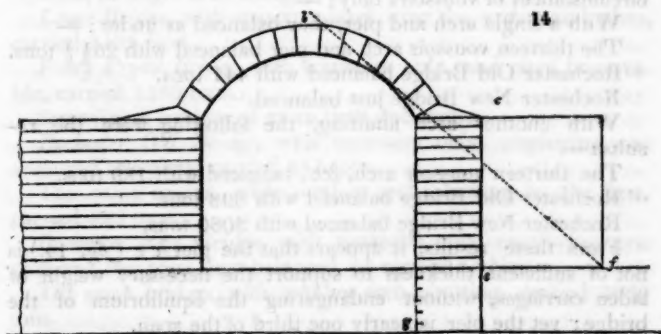
On comparing Rochester New Bridge with Waterloo Bridge, there appears this difference: the former balances on a pier much less in height than the latter, when a single arch of both are considered; but, when the arches have others abutting

on them, the strength of the former becomes conspicuous, on allowing to both the same width. This is explained by many of the experiments in the foregoing essays, simply by the nearer approach of the straight line.

Whilst constructing the Rochester New Bridge model, a difficulty was experienced in preventing the arch, composed of voussoirs only, from forcing off the top courses of the piers, which was not the case with the cycloidal arch.

The architects of a few centuries back, and those of the present day, differ considerably in the proportions which each employed in the formation of bridges; the arches of the former being small, with very large piers; whereas those of the latter are of very large span, with proportionally small piers. The modern architects, it must be admitted, have immense advantages which were not available to their predecessors; not only by the experience they derive from the labours of those gone before them, but from the great progress which both art and science have made, comparatively within these few years. The principal advantages have been, and are, that stone of any dimensions may be procured for voussoirs, and the steam-engine may be used to clear out the water whilst forming foundations in rivers.

It will be seen by the sequel that the constructors of Rochester Old Bridge and of London Old Bridge were correct, as far as circumstances went. For example, let the diagram fig. 14. represent arch 3. of Rochester Old Bridge, being



30 ft. span, 9 ft. rise, and forming the segment of a circle. Now, this segment corresponds with the segmental arch 3., but is composed of thirteen voussoirs. It has been observed that the arch composed of twelve voussoirs just balances on piers 4 in. thick, and 8 in. high; and an arch composed of thirteen voussoirs will balance on a similar pier; while, on increasing the thickness of the piers to 6 in., the same arch is found by

experiment to balance on them when raised to 20 in. high; that is, from *g* up to *c* in the diagram *fig. 14*.

It will be seen, when treating of the arches and piers in churches, in a subsequent essay, that the proportion of one-sixth regulates the dimensions of the piers as to their diameter and height. The truth of this law is confirmed in the above instance; since, having increased the base of 4 in. to 6 in. in thickness, the additional 2 in., being multiplied by 6 in., give 12 in.; which, when added to 8 in., the former balancing height, equal 20 in., the latter balancing height. Let 6 in., or six courses, be taken from the pier *cg*, leaving the height *ce*: this, according to the same law, equals 1 in. of increase of thickness to the pier; and the scale of the model being 1 in. to $1\frac{1}{2}$ ft., *ec* will be 21 ft. high, which corresponds nearly with the assumed height of the pier of Rochester New Bridge.

On putting to experiment this thirteen voussoir arch, with a pier 14 in. in height, they balanced with three quarters of a pound on the crown of the arch; and, being of the same scale of model as employed for Rochester Bridge, will equal $23\frac{1}{2}$ tons on the whole width. With another equal and similar arch abutting against the first, either arch balanced with 6 lb., which will equal, for the reason given above, 189 tons. Let this weight be compared with the weight which the arch 3. of Rochester Old Bridge will carry, having the piers 22 ft. in thickness; likewise, let it be compared with Rochester New Bridge under the same circumstances of voussoirs only:—

With a single arch and pier, they balanced as under:—

The thirteen voussoir arch and pier balanced with $26\frac{1}{2}$ tons.

Rochester Old Bridge balanced with 441 tons.

Rochester New Bridge just balanced.

With another arch abutting, the following were the results:—

The thirteen voussoir arch, &c., balanced with 189 tons.

Rochester Old Bridge balanced with 693 tons.

Rochester New Bridge balanced with 3060 tons.

From these results, it appears that the pier *ce* (*fig. 14*.) is not of sufficient thickness to support the necessary weight of laden carriages, without endangering the equilibrium of the bridge; yet the pier is nearly one third of the span.

On looking back to the fourth experiment in Essay IV., it will be seen that strength can be given to a fabric by raising the structure with masonry over the piers and crown of the arch; and if this were carried up in *fig. 14*., the arch would sustain a great weight. But then what a mass of masonry would be required; adding not only to the expense, but proving an immense load on the piers, which are situated upon an uncertain foundation, besides raising the roadway to a most inconvenient height?

It appears, then, from this, that there was no other alternative with the ancient builders but to increase the thickness of the piers, as *cf*, taking the never-failing straight line *bf* to regulate the dimensions.

Enough has been shown, to prove that the proportion between the thickness of a pier and the span of its arch is not regulated by each other, for structures destined to have great and uncertain weights to pass over them. It is the proportion of the mass of matter of the arch, to the weight that is to pass over it, which must regulate the whole: for instance, an arch of only 30 ft. span cannot contain the same weight of materials as an arch of 100 ft.; consequently, a weight of only 6 tons would have proportionally greater effect over the equilibrium of the 30 ft. span arch than it would have over the arch of 100 ft. span, allowing the same width of roadway to each.

It is this, and this only, which must ever require thick piers for small arches, and which will allow of one sixth of the span of large arches for the thickness of their piers; at the same time, never omitting to keep within, or, rather, not to exceed the balancing height of a voussoir arch, on its pier. This, under all circumstances of bridge architecture, ought to be the limit.

Having proceeded thus far with bridges, a list is subjoined, showing the relative weights sustained by the bridges which have been treated of.

First, of single arch bridges:—

Loose Bridge, with masonry level over the crown and piers, carried 1134 tons.

Ponty Prydd Bridge, with voussoirs only, and piers immovable, carried 1360 tons.

Secondly, of bridges of more than one arch:—

Rochester Old Bridge, with voussoirs only, employing one arch and two piers, carried 441 tons.

The same bridge, with another arch abutting to the first, carried 693 tons.

Rochester New Bridge, with voussoirs only, employing one arch and two piers, just balanced, or carried nothing.

The same bridge, with another arch abutting, carried 2060 tons.

Waterloo Bridge, with voussoirs only, employing one arch and two piers, just balanced, or carried nothing.

The same bridge, with another arch abutting, carried 4150 tons.

When two arches were placed abutting each other, the middle pier only was movable: the end piers were fixed.

ART. IV. *Candidus's Note-Book.*

Fasciculus III.

"Sicut meus est mos,
Nescio quid meditans nugarum; et totus in illis."

I. PROFESSORS sometimes perpetrate very odd things, — what not only look like absurdities in the eyes both of professional and non-professional persons, but are apt to be mistaken by the uninitiated vulgar for downright blunders. This is the case with Professor Soane, who, in the building called the Board of Trade, at the corner of Downing Street, has put a range of mezzanine windows immediately behind the entablature, at the distance of only a few inches; a circumstance utterly indefensible as regards both the windows and the entablature, inasmuch as we perceive that the former are quite obstructed, and the latter is a mere piece of decoration stuck up before the front, and worse than useless. Had he strained his ingenuity ever so little, he must have discovered that, by stopping up the soffit of the entablature below, and making the entablature itself a parapet before the windows, which might have risen somewhat higher than the level of its upper line without being visible from the street, not only would the rooms to which those windows belong have been infinitely better lighted, but no one would have been aware of there being any windows at all in that situation.

II. Out of tender regard to the interests of newspapers and penny-a-liners, I ought to allow that the usual number of accidents must be kept up; nevertheless, I infinitely prefer the benevolence which would prevent them, to the maudlin sympathy they excite when they occur. For this reason, I think humanity would be better manifested by adopting some regulations which would greatly lessen the danger to which foot passengers are exposed in crossing many of our wide streets. Wherever the carriage-way is 50 ft. in breadth, lamp-posts should be erected at all the principal crossings at least, placed on a platform raised about 6 in. above the pavement, and about 10 ft. square, so that the distance from it to the foot-pavement would be only 20 ft., which would still leave sufficient room for two carriages to pass. A few lamp-posts, so placed, could not possibly be deemed obstructions, certainly not so much so as a line of hackney coaches and cabs, which are now permitted to stand in some places for a considerable extent. A coach-stand itself serves, in some degree, as a protection in crossing a wide street; but it also prevents a person from clearly discerning whether any vehicles are coming on the side beyond it; so that, when halfway over, he may sometimes find himself in imminent peril. Where a street is not sufficiently wide to admit a carriage-way on each side of such a lamp-post

as has just been described, another mode might be adopted; namely, to form a jetty, or jutting-out piece, from the footpath on each side, so as to contract the space between them to about 20 ft.: of course, these jetties should be guarded by railing of some sort; and there should be a lamp erected at the extremity of one of them, if not of both, for the sake not of foot passengers alone, but of carriages likewise.

III. As a piece of architecture, the Bourse at Paris has been greatly overrated: it has a fine peristyle, and nothing more; and even the effect of the colonnades themselves is greatly impaired by the two ranges of arched windows behind them; which not only indicate a deviation in style, but produce a most disagreeable monotony. This would not have been the case had there been no other apertures than doors in the lower part, and a range of square-headed windows above. Still better would it have been had there been a window only to each alternate inter-column, for in that case not only would they have been less crowded together: but there would also have been a certain contrast between the colonnades and the walls behind them, the number of apertures in the latter being only half that of the outer columns. That the exigencies of the building, perhaps, opposed considerable difficulties to such an arrangement, I willingly concede; yet that these difficulties might not have been surmounted by study and ingenuity, is more than I can easily believe.

IV. The church of La Madeleine has likewise, in my opinion, been extolled with too much exaggeration of applause. Undoubtedly it is an imposing work; and, if we can be content with the fac-simile of an ancient Corinthian peristyle temple, we ought to be perfectly satisfied with it. In itself, we may allow it to be a beautiful object; gratifying, as a restoration, or a model on a large scale, derived from a noble prototype, of which it conveys the full effect: nevertheless, it so utterly disclaims all pretension to originality, that it can hardly be received as an example of the present state of architectural talent in France, unless taste and talent are to be regarded as identical; whereas it is the test of superior ability to be able to transpose the beauties of ancient architecture into other forms, retaining all its spirit, while manifesting it differently. Rigorous criticism might further object, that the exterior is too much of a mere mask; that there is no outward indication whatever of there being domes within; and as little to designate to the eye at all, that the building is a Roman Catholic church. It is true, Schinkel has concealed the dome over the rotunda, in the Museum at Berlin, by screen walls; yet the kind of attic which he has thus formed above the centre of the edifice serves, independently of its effect in the composition, to indicate greater loftiness in that part of the interior.

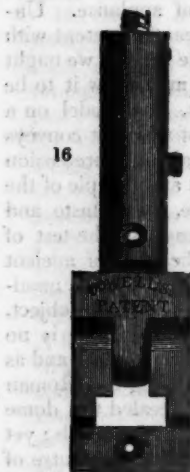
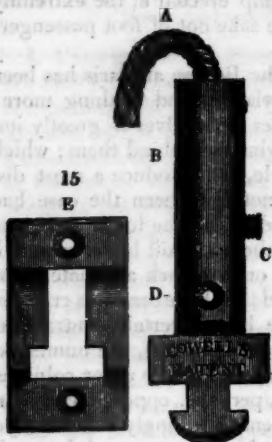
ART. V. Cowell's Patent Sash Suspender. By JOHN REYNOLDS.

HAVING myself proved the utility of Cowell's patent sash suspender, I feel somewhat competent to speak as to its merits. This invention completely supersedes the necessity of servants or workmen getting outside of windows, either to clean, paint, or repair; a desideratum, I think, all will gladly welcome; particularly as the numerous accidents and loss of life from window-cleaning alone have of late been very appalling; it being calculated that upwards of two hundred persons have lost their lives by this practice within the last twenty years.

The mechanism is so simple, that a child may manage it: the only difference is, that the line, instead of being nailed to the sash, is secured in a socket provided with a hook. To this is fitted a plate, or eye, which is let into the sash, so that it can be attached or detached in an instant, and with the greatest ease. When I reflect on the years that have rolled by, the lives that have been sacrificed, and the great inconvenience attending the old method, I am truly astonished to find the difficulty overcome by so simple a contrivance, and at so trifling an expense. A complete set of the brass suspenders, including an ingenious brass bolt for the bead, instead of nailing it, only cost me 3s. 6d., and the fixing of the same 2s. This, I think, needs no comment.

My feelings would induce me to say much more on the subject; but I will only add that, should any of your readers wish to inspect the plan, I shall not deem it an intrusion if they call at my house, *en passant*, wishing, as far as my humble endeavours can avail, to assist in the preservation of life, and serve the cause of humanity.

23. Chadwell Street, Myddelton Square, Jan. 10. 1837.



Figs. 15. and 16. will show the nature of this invention : A, the sash-line ; B, the socket that receives the line for the sash ; C, the screw that presses the spring within, to secure the line ; D, the aperture to show that the line is at the bottom ; E, a plate, or eye, to be let into the sash. Fig. 16. shows the whole attached.

Mr. Cowell has printed testimonials in favour of his invention, signed by Dr. Birkbeck, and Messrs. Savage, Cottingham, and Cottam, architects. Mr. Cowell's manufactory is in Lower Street, Islington.

MISCELLANEOUS INTELLIGENCE.

ART. I. Domestic Notices.

ENGLAND.

NEW CHURCHES.—Handsome subscriptions have been entered into for the erection of new churches at the following places :—*Monk Bretton*, near Barnsley ; *Accrington*, near Manchester ; *Bury* and *Blackburn*, Lancashire ; *Oswestry*, Shropshire ; *Bogelf*, North Wales ; and *Crieff*, in Scotland.

Reported Failure of the Foundations of the Bank of England.—We understand that the new sewer, built in the street on the west side of the Bank, has been most effectual in draining from the adjoining soil the waters with which it was saturated. The whole of this neighbourhood has always been affected from the course of the Walbrook, formerly running through it ; so that the subsoil is, in fact, a thorough swamp. On this bad foundation, the houses adjoining, and the Bank, have been built, with every precaution of piles and planking. It is said, however, that the draining of the waters into the new main sewer has so far dried up the soil, that it has caused settlements of a very serious nature in those parts of the Bank which are adjacent to it, and especially in the elegant Doric vestibule, which shows some very large cracks and other signs of considerable settlements. We have heard, but cannot vouch for the truth of the report, that, in consequence of these settlements, the whole extent of the foundations of the Bank are now kept artificially under water, and with such perseverance, that the directors will not allow the New River Company, whose pipes pass under the Bank, to repair any of their pipes, which are supposed to leak to a very serious degree, as the supply arising from that circumstance tends to keep the soil damp, and thus prevent the decay of the timbering upon which the walls are built, and which would proceed much faster if the ground were alternately wet and dry. — *M. London, Jan. 12. 1836.*

Foundling Hospital.—Owing to alterations and repairs in the chapel of this hospital, which were very necessary to be attended to, it has been closed for several months, but will be reopened in the beginning of next month, for the performance of divine service. Some massive pillars, which before stood in the organ loft, have been removed, and there has been substituted for them an iron truss, superior in weight and casting to any other known in the metropolis. This has sufficiently counterbalanced the support they gave to the roof ; and the view of the children, which was before obstructed, is now without any interruption. — *Frederick Lush. October 27. 1836.*

New Bridge.—Early next session of Parliament, it is intended to apply for a bill to sanction the erection of a bridge across the river from Horseferry Road to Church Street, Lambeth. The span of the bridge would be about

the same as that of Vauxhall Bridge or New London Bridge; and it is much to be hoped that it will be carried into effect. — *Frederick Lush*, Oct. 27. 1836.

The new Houses of Parliament are to be commenced without farther delay, agreeably to Mr. Barry's plan. This was decided by the Commissioners on Jan. 19. The lofty tower is to be rendered available for keeping the public records of the country. (*Morn. Chron.*, Jan. 23.)

Heating by Gas. — The novel application of heating by the flame of burning gas is coming very extensively into use. The plan has been recently introduced at Islington Church, and at St. Michael's Church in the Strand. The vestry-room of St. Sepulchre's, His Majesty's Royal Mint, Westminster Hospital, and several banking-houses and other public buildings, are also warmed in the same manner. — *W. P. G.* November 2. 1835.

Designs for Literary Retreats. — The Literary Fund Club have it in contemplation to build literary retreats for some half dozen (as a beginning for the plan, which, if it succeeds, will be extended indefinitely) literary characters, to whom a house, rent free, and a small garden, might prove a happy retirement in their days of the "sear and yellow leaf." (*Morn. Chron.*, Jan. 13.) [We would suggest the idea to young architects of preparing designs for these literary retreats; either as detached cottages, surrounded by their gardens, or all the six united in one building in the centre of the gardens, the latter radiating from them on every side. The cheapest mode of raising dwellings of this kind, which might be called literary colleges, would be to arrange a number of apartments, to the height of five or six stories, round a central staircase, from which heat might be supplied to all the rooms; and gas might be conducted to all the kitchens for the purposes of cookery, washing, &c. Any ingenious designs of this kind we shall be happy to publish. Some useful hints, by Junius Redivivus, may be found in the *Mechanic's Magazine*, and in the *Monthly Repository*; and also in our *Encyclopædia of Cottage, Farm, and Villa Architecture*.]

Architectural Drawings at the Royal Academy. — "*Royal Academy*, Nov. 10. 1836. Notice is hereby given to such students as have obtained the gold medal in the class of architecture, that they may become candidates to be sent to the Continent for three years, by delivering to the keeper, on or before the 10th day of March next, a recent and attested specimen of their abilities. The election will take place on the 10th day of May next. — *Henry Howard*, *R. A.*, Secretary." [We should like to see our young architects more fired by the ambition of distinction. The drawings at the Royal Academy for the silver medal (the subject, the façade of the Goldsmiths' Hall), we have been informed, were very indifferent, evincing great ignorance of the Corinthian capital. If such a subject had been given in France, the result would have been very different.]

The District Surveyorship of St. George's, &c. — At a meeting of the magistrates for the county of Middlesex, held on the 8th of November, a ballot took place for the district surveyorship of St. George's in the East, and St. Botolph without, Aldgate, vacant by the decease of Mr. Sibley. The candidates were Mr. William Grellier, Mr. Henry Flower, Mr. R. C. Carpenter, Mr. James Davies, and Mr. Kendall, jun. The two latter resigned; and, upon the numbers being declared, there appeared, for Mr. Flower 58; for Mr. Carpenter 20; and for Mr. Grellier 18. Mr. M'William commented with severity upon the fact that two of the candidates were near relatives of magistrates upon the bench; and moved that the names of those who voted for each of the candidates should be taken down. The motion was seconded by Sir J. Gibbons in strong terms. — *G. B. W.* London, Dec. 7. 1836.

The Royal Exchange was much damaged by the severe gale of November 29. A large quantity of the lead upon the roof, being dislodged by the wind fell into the enclosed area, carrying with it about 40 feet of the western balustrade. The large mass of lead and stone, weighing upwards of a ton, descended with a tremendous crash, but, fortunately did no further harm than

that of destroying the entablature over the statue of Henry VIII., and knocking away the sceptre from that of Edward VI. — *G. B. W. London, Dec. 7. 1836.*

Parliamentary Agency Offices. — On the 3d of December, the first stone of an extensive range of buildings, intended for Parliamentary Agency Offices, now in course of erection, by Mr. Charles Pearson, in the Bird Cage Walk, was laid with great ceremony by the Lord Mayor, attended by the sheriffs, several members of parliament, common councilmen, &c. The design, which is highly spoken of, is by James Elms, Esq., surveyor to the port of London. — *Id.*

The Signor Scotti, an Italian civil engineer, who was in the service of the Emperor of Austria, and had the care of one of the principal roads over the Alps, is now in this country, for the purpose of making himself acquainted with our railroads. This intelligent engineer has laid down some maps and sections of the Alps, noting the various strata of the rocks at their several heights, the levels at numerous points; and, in fact, has collected data of a geological and scientific nature of the utmost importance. His studies on road-making are extremely curious, and prove that the knowledge of this important subject is not confined to England, but that many facts of great interest may be learned abroad, of which we have no idea. — *B. London, 1836.*

BERKSHIRE. — *Royal Berks Hospital.* — The committee have decided on the plans which appear to possess the most merit, and have awarded the premiums accordingly. The architect whom they engaged to assist them in forming a judgment is a gentleman of first-rate eminence, and surveyor to one of the largest hospitals in the kingdom. He laid down a scale of merit; and the committee found that the two designs which then ranked first bore the mottos of "Spero" and "Confido," both being the production of one architect, Mr. Henry Briant of this town. One of the designs is Gothic, the other chiefly of the Ionic order. The first prize of 50*l.* was therefore awarded to this gentleman. The second premium of 30*l.* was awarded to a design with a motto "Tacere tutum est," sent by Mr. W. Newham, jun., 7. Bengal Terrace, Kent Road, London. The third premium of 20*l.* to a design with the motto, "I was sick, and ye visited me," to Mr. Inman, Eaton Square, London. We congratulate Mr. Briant on a decision which confers so much honour on his talents, and insures him a high rank in his difficult and honourable profession. (*Berkshire Chron.*, Dec. 21. 1836.)

DEVONSHIRE. — *County Lunatic Asylum.* — At a meeting of the guardians of the Poor Law Union in the county of Devon, on Thursday, Nov. 3., the Earl of Devon in the chair, it was resolved to build a County Lunatic Asylum; for which purpose Lord Rolle has munificently offered the ground required, as a free gift to the county. (*Exeter Flying Post.*)

KENT. — *Gravesend.* — A public Grammar School is nearly completed at Gravesend, the expenses of which are to be defrayed out of the corporation funds. Its architecture is purely Gothic, after the plan of Cobham Hall; and the building, when finished, will beautify the site on which it stands. — *Frederick Lush. Charles Square, Hoxton, Oct. 16. 1835.*

LANCASHIRE. — *Liverpool Custom-House.* — The three porticoes of the new Custom-house are now complete, the one to the north having just been finished. The western portico is seen to great advantage from the river and the Cheshire shore: the eastern much less perfectly from the front of the old Custom-house; and the northern will very shortly form a very noble and open principal front to the building, and be seen to great advantage from St. George's Crescent and Castle Street. When the alterations in South Castle Street (quondam Pool Lane) are complete, the view from the front of St. George's Crescent terminated to the left by the Town Hall, and the right by the Custom-house, and having in front the open space and handsome buildings of Lord Street, will be one of the finest in the town. (*Liverpool Times*, Dec. 1836.)

the same as that of Vauxhall Bridge or New London Bridge; and it is much to be hoped that it will be carried into effect. — *Frederick Lush*, Oct. 27. 1836.

The new Houses of Parliament are to be commenced without farther delay, agreeably to Mr. Barry's plan. This was decided by the Commissioners on Jan. 19. The lofty tower is to be rendered available for keeping the public records of the country. (*Morn. Chron.*, Jan. 23.)

Heating by Gas. — The novel application of heating by the flame of burning gas is coming very extensively into use. The plan has been recently introduced at Islington Church, and at St. Michael's Church in the Strand. The vestry-room of St. Sepulchre's, His Majesty's Royal Mint, Westminster Hospital, and several banking-houses and other public buildings, are also warmed in the same manner. — *W. P. G.* November 2. 1835.

Designs for Literary Retreats. — The Literary Fund Club have it in contemplation to build literary retreats for some half dozen (as a beginning for the plan, which, if it succeeds, will be extended indefinitely) literary characters, to whom a house, rent free, and a small garden, might prove a happy retirement in their days of the "sear and yellow leaf." (*Morn. Chron.*, Jan. 13.) [We would suggest the idea to young architects of preparing designs for these literary retreats; either as detached cottages, surrounded by their gardens, or all the six united in one building in the centre of the gardens, the latter radiating from them on every side. The cheapest mode of raising dwellings of this kind, which might be called literary colleges, would be to arrange a number of apartments, to the height of five or six stories, round a central staircase, from which heat might be supplied to all the rooms; and gas might be conducted to all the kitchens for the purposes of cookery, washing, &c. Any ingenious designs of this kind we shall be happy to publish. Some useful hints, by Junius Redivivus, may be found in the *Mechanic's Magazine*, and in the *Monthly Repository*; and also in our *Encyclopædia of Cottage, Farm, and Villa Architecture*.]

Architectural Drawings at the Royal Academy. — "Royal Academy, Nov. 10. 1836. Notice is hereby given to such students as have obtained the gold medal in the class of architecture, that they may become candidates to be sent to the Continent for three years, by delivering to the keeper, on or before the 10th day of March next, a recent and attested specimen of their abilities. The election will take place on the 10th day of May next. — *Henry Howard, R. A., Secretary.*" [We should like to see our young architects more fired by the ambition of distinction. The drawings at the Royal Academy for the silver medal (the subject, the façade of the Goldsmiths' Hall), we have been informed, were very indifferent, evincing great ignorance of the Corinthian capital. If such a subject had been given in France, the result would have been very different.]

The District Surveyorship of St. George's, &c. — At a meeting of the magistrates for the county of Middlesex, held on the 8th of November, a ballot took place for the district surveyorship of St. George's in the East, and St. Botolph without, Aldgate, vacant by the decease of Mr. Sibley. The candidates were Mr. William Grellier, Mr. Henry Flower, Mr. R. C. Carpenter, Mr. James Davies, and Mr. Kendall, jun. The two latter resigned; and, upon the numbers being declared, there appeared, for Mr. Flower 58; for Mr. Carpenter 20; and for Mr. Grellier 18. Mr. McWilliam commented with severity upon the fact that two of the candidates were near relatives of magistrates upon the bench; and moved that the names of those who voted for each of the candidates should be taken down. The motion was seconded by Sir J. Gibbons in strong terms. — *G. B. W.* London, Dec. 7. 1836.

The Royal Exchange was much damaged by the severe gale of November 29. A large quantity of the lead upon the roof, being dislodged by the wind fell into the enclosed area, carrying with it about 40 feet of the western balustrade. The large mass of lead and stone, weighing upwards of a ton, descended with a tremendous crash, but, fortunately did no further harm than

that of destroying the entablature over the statue of Henry VIII., and knocking away the sceptre from that of Edward VI. — *G. B. W. London, Dec. 7. 1836.*

Parliamentary Agency Offices. — On the 3d of December, the first stone of an extensive range of buildings, intended for Parliamentary Agency Offices, now in course of erection, by Mr. Charles Pearson, in the Bird Cage Walk, was laid with great ceremony by the Lord Mayor, attended by the sheriffs, several members of parliament, common councilmen, &c. The design, which is highly spoken of, is by James Elms, Esq., surveyor to the port of London. — *Id.*

The Signor Scotti, an Italian civil engineer, who was in the service of the Emperor of Austria, and had the care of one of the principal roads over the Alps, is now in this country, for the purpose of making himself acquainted with our railroads. This intelligent engineer has laid down some maps and sections of the Alps, noting the various strata of the rocks at their several heights, the levels at numerous points; and, in fact, has collected data of a geological and scientific nature of the utmost importance. His studies on road-making are extremely curious, and prove that the knowledge of this important subject is not confined to England, but that many facts of great interest may be learned abroad, of which we have no idea. — *B. London, 1836.*

BERKSHIRE. — *Royal Berks Hospital.* — The committee have decided on the plans which appear to possess the most merit, and have awarded the premiums accordingly. The architect whom they engaged to assist them in forming a judgment is a gentleman of first-rate eminence, and surveyor to one of the largest hospitals in the kingdom. He laid down a scale of merit; and the committee found that the two designs which then ranked first bore the mottos of "Spero" and "Confido," both being the production of one architect, Mr. Henry Brient of this town. One of the designs is Gothic, the other chiefly of the Ionic order. The first prize of 50*l.* was therefore awarded to this gentleman. The second premium of 30*l.* was awarded to a design with a motto "Tacere tutum est," sent by Mr. W. Newham, jun., 7. Bengal Terrace, Kent Road, London. The third premium of 20*l.* to a design with the motto, "I was sick, and ye visited me," to Mr. Inman, Eaton Square, London. We congratulate Mr. Brient on a decision which confers so much honour on his talents, and insures him a high rank in his difficult and honourable profession. (*Berkshire Chron., Dec. 21. 1836.*)

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Liverpool. Useful Association.—To those gentlemen who, by their noble contributions to the Mechanics' Institution, have distinguished themselves as patrons of science, art, and literature, in this town.

Gentlemen, to persons who, like you, take an interest in any studies which are calculated to soften the affections or purify the minds of men, it will be unnecessary to mention how much effect of that nature the study of architecture is capable of producing; nor is it necessary that I should inform you, who are in constant communication with engineers and engineering speculation, how necessary it is that future engineers should be capable of producing and carrying into effect any schemes which may be required: but, as this letter is intended to convey some idea of what advantage may be effected by the formation of a society for promoting these objects, a brief explanation may, perhaps, be excused.

That the study of architecture is calculated to effect, in a certain way, the objects I have stated above, must, I think, to every reflecting mind, be self-evident; but, as there are some who prefer having propositions of the simplest nature proved to them, instead of exerting any ingenuity with which they are blessed to find them out, I shall endeavour to do so in as few words as possible.

We in general find that the contemplation of any beautiful object, as a painting, model, &c., excites certain feelings in the mind of the beholder, which, if improved upon, may be turned to a good purpose. If the accidental or occasional examination of such objects can produce good fruit, how much more likely is the constant contemplation to do so? In the one case the effect is ephemeral, in the other continual; and, by having models, &c., of a beautiful nature continually before him, the beholder may be incited to form a comparison between the one and the other; and thus his taste may be formed or improved: but, on the contrary, when the objects presented are in bad taste, or of obscure worth, such effect cannot be expected. If, then it be desirable that every one should have specimens of "the sublime and beautiful" constantly before him, no one will deny that it is necessary that there should be persons capable of producing them.

In this age, when every thing is done by means of steam, it is necessary that we should have persons competent to manage or improve on the different modes of using it; and now, when almost all inland communications are effected by means of railroads, it is essential that we should have men capable of surmounting almost any difficulty that may be opposed to them: they should be perfectly acquainted with the nature of the country, soil, &c., through which the intended road is to be laid. Of the different kinds of tuition, I believe it is generally allowed that mutual instruction is the one, of all others, most calculated to produce its object, as the different pupils have to prepare themselves by reading and thought to explain the subject they have undertaken.

Impressed with what I have now briefly stated, the young architects and engineers of Liverpool have formed themselves into a society for mutual instruction in the mysteries of their professions; and should you, or any other gentlemen, be disposed to assist them, I am convinced that it will be one of the most effectual ways of improving the intellectual taste of the town. For a further explanation of their objects, I beg leave to refer you to their rules.—*C. Sept. 13. 1836. (Liverpool Mercury, Sept. 30. 1836.)*

Mr. Coad's Plan for consuming Smoke.—Mr. Richard Coad of this town has taken out a patent (sealed July 10. 1835) for an invention of his for getting rid of the nuisances from steam-boats and factories, by making the chimneys consume their own smoke. To borrow a passage from a contemporary to explain this,—“The smoke is a certain quantity of the inflammable matter of the coals, which is lost by evaporation, instead of being burnt. Now, Mr. Coad's method consists in supplying this smoke with the quantity of heat that is necessary for its perfect combustion; and this is effected in a very simple and ingenious manner. An apparatus consisting of a series of

small tubes, or chambers, so constructed as to expose a large surface to the action of the heat, is placed in the lower part of the chimney beyond the boiler : one end of the series communicates, by an open orifice, with the external air, while the other opens into a slit in the bridge of the surface. This is the whole contrivance, and it acts thus :—The superfluous heat in the chimney raises the temperature of the iron tubes to a high degree, and the draught in the chimney causes a current of air into the fire through every aperture, and, consequently, through the heated tubes : a current of hot air is thus thrown into the flame at every point where the smoke begins to be formed ; and the effect is, that the deposition is prevented, and the flame and heat of the fire, are both much increased, and not a particle of the smoke escapes from the top of the stack. It will be seen from the foregoing statement, that the means by which Mr. Coad accomplishes this object are as simple as they have hitherto been found effective ; and the saving in fuel, from the peculiar operation of the invention, we are assured by several persons of experience, will be immense. The principal merit of Mr. Coad's patent consists in bringing back the caloric, which in almost every instance is entirely lost to the manufacturer. We trust, for the sake of the health of the town, that no feeling of dislike to new inventions will prevent the use of this apparatus from becoming universal. (*Liverpool Telegraph*, Dec. 14. 1836.)

Statue of the late Mr. Huskisson.—We have not yet had an opportunity of inspecting Mr. Gibson's monument of the late Mr. Huskisson, and we copy the subjoined paragraph on the subject from the *Liverpool Courier*, without identifying ourselves in any degree with the opinions of the writer.—*Edit. Merc.*

"The colossal statue of the late Mr. Huskisson has at length been deposited in the place destined for its reception ; and in a few days the public will have an opportunity of gratifying their curiosity by seeing it, as well as will be compatible with its safety. The building in which it is enclosed is of a chaste and noble design : it is of a circular form, with a rustic basement about 10 ft. in height, which supports several Corinthian fluted columns, the intermediate spaces of which are filled with polished ashlar. Over the top of these columns are ten windows of 3 ft. square, carved out of solid stone. A moulded frieze and entablature is next raised over the columns, with carved ornaments all round the cornice, and above which is a stone dome, with ten perforations serving for windows. The whole is surmounted by carved ornaments, supporting a ball and cross. The diameter of the building inside is about 15 ft. The interior is ornamented by flowers, executed in stone. The entrance is by a flight of steps and folding-doors in the rustic basement. On the whole, the building is admirable in its conception, and exquisite in its finish ; but it is to be regretted that its position in such an excavation as the cemetery is by no means calculated to exhibit it to advantage. Had it been placed on an eminence, it would have been one of the most tasteful mausoleums in Europe. In order to prevent damage to the figure, the door is glazed with plate-glass, through which it may be seen with great advantage. The statue itself, executed by Gibson, at Rome, is about 7 ft. 9 in. in height, and stands on a pedestal of 2 ft. 4 in., at the back of the building, facing the door. The figure stands erect, in a commanding attitude, with the right leg somewhat advanced. The arms crossing the breast, holding a scroll, and partially covered with a Roman toga, which hangs gracefully over the left shoulder, and falls in broad and massive folds over the lower part of the figure. The expression of the countenance is thoughtful and intellectual, and one which Mr. Huskisson, in the discharge of his senatorial duties, frequently exhibited, which it evidently has been the object of the artist to depict ; and strongly reminds the spectator of the late lamented and distinguished member for Liverpool. We shall not, at present, go into the merits of this splendid statue : it fully sustains the fame of the artist, and adds another gem of the highest class of statuary art to the one by Chantry, in the Town Hall. The weight of the figure is between 30 and 40 cwt., and cost, it is said, somewhere about 1500*l*. The building, which was

erected by Mr. Tomkinson (from a design by Mr. Foster, the architect engaged in the erection of the new Custom House), cost about 1400*l*. The whole building is surrounded by an area (containing a great number of vaults, many of which are let) enclosed by handsome railing, in architectural keeping with that of the building. Into this area the public will be admitted to view, through the plate-glass door, the statue of the deceased."

The following is copied from the *Liverpool Mail*:—"This is a noble work of art. Simple, majestic, calm, the attitude and expression of this fine statue leave nothing for the eye of taste and judgment in sculpture to desire. The execution of such parts of the figure as its position allows to be seen may, without hesitation, be pronounced faultless. Admirable and *practical* as is Mr. Gibson's knowledge of the anatomy which belongs to his art, there is here no ostentatious parade of that rare accomplishment, a vanity from which Michael Angelo himself could not abstain. The exquisitely modelled arm, which crosses the body with such graceful ease, and the manly chest, neck, and shoulder, display conspicuously the perfection of the human form in a state of rest. Not a muscle starts unbidden from its repose to mark an action which has no existence; nor does a vein obtrude too curiously its meanderings, to solicit the admiration of the uninitiated amateur. All is tranquillity, and a tranquillity full of grace and dignity. Though the above is intended as a mere general notice, it would scarcely be pardonable not to observe that the drapery of the figure has a noble breadth and simplicity, and that the right hand and wrist are in themselves a study." These remarks are thrown out to invite, rather than exhaust, criticism. (*Liverpool Mercury*, Sept. 30. 1836.)

LEICESTERSHIRE.—A *general News-room and Library* is about to be built in the town of Leicester. The news-room is intended to accommodate about 500 persons; and the total expense is not to exceed 3000*l*. The competition respecting this building was decided, by a very considerable majority, in favour of Mr. Flint of Leicester, for the best plan; and Mr. Weightmore of Sheffield for the second best. The rejected plans, which were numerous, were safely returned to their respective designers, with a handsome letter from the secretary accompanying each.—*S. T. Leicester*, November 3.

NOTTINGHAMSHIRE.—A cemetery is about to be formed by the Nottingham General Cemetery Company, who advertise that they will give 20*l*. for the best, and 10*l*. for the second best, design for the chapel and lodges, and for laying out the grounds. The plan may be seen, and all necessary particulars ascertained, by application at the office of Messrs. Clark and Wells, Nottingham. (*Nottingham and Newark Mercury*, Jan. 7. 1837.)

OXFORDSHIRE.—Oxford. *The new Vehicle Retarder*.—Much curiosity has been excited in Oxford by repeated trials of a new invention intended to regulate the speed of carriages when descending a hill, by means of which the coachman can instantaneously or progressively lock both the hind wheels. The apparatus was applied to a four-horse stage, which was loaded with passengers, and, on ascending and descending a hill, was found to answer all the purposes intended. The inventor then proposed that the coach should be taken down the hill without the horses, and it was frequently stopped while proceeding at the rate of twelve miles an hour. Many practical gentlemen had ample proofs of the principle of the invention, by having the coach lifted up, and the two hind wheels allowed to turn free on the axle; when it was found that a 2 lb. weight, placed on the extremity of the wheel, would bring it gently round; but, when the first degree of retarding power was applied, it took a weight, so placed, of 15 lb. to bring it gently round; the second degree, 36 lb.; the third degree, 56 lb.; and the fourth degree, three quarters of a hundred; but, with this weight, not one person was capable of moving either wheel on its axle. Mr. B. Pearson, organist of the city church, is the inventor. (*Oxford Journal*.)

SOMERSETSHIRE.—Bath.—The first stone of a new church in the Gothic, or pointed, style of architecture, from the designs and under the superintend-

ence of G. P. Manners, Esq., was laid on the 21st of April last, by the Bishop of Bath and Wells. Under this stone there was deposited a copper box, containing thirteen beautiful specimens of the gold, silver, and copper coinage of the present reign ; over this was a brass plate, bearing the following inscription : — " Other foundation can no man lay than that is laid, which is Jesus Christ. 1 Cor., iii. 11. St. Michael's Church, rebuilt by voluntary subscriptions." After which were the names of the bishop, rector, curate, churchwardens, architect, and builder. In the course of a few weeks, it will be covered in. The galleries are fixed, and also the columns which are to support the roof. The interior finishings, &c., are expected to be completed, and the church opened, about the middle of next July. — *W. P. G.*

SUFFOLK — *Ipswich. Revolving Shutters.* — An excellent and substantial house, with bookseller's and stationer's shop, and suitable offices for the publication of the *Reformer* newspaper, has just been completed here for the Honourable Baron Dimsdale, from the design of D. Hollingsworth, Esq., architect of this town, in which some new features in *street architecture*, as well as in *shop fronts*, are introduced. Of these I have here only to notice the shutters, which are also *Whiting's patent*. They are composed of a series of narrow rebated and beaded laths (in this case of deal, but they are also made in iron when required), attached by small hook and eye joints, let in flush. When down, they have the light appearance of a Venetian blind, combined with the strength of the ordinary paneled lift shutters ; when up, they are concealed in a boxing at the head of the window, containing a pulley and roller, round which the shutters revolve, in the manner of a roller blind. A pulley with ratchet-wheel is concealed under the show-board of the window, by which, with a winch handle, the shutter is drawn up. The whole shop front, consisting of two large windows, and doors in the centre, can be shut up in about as many minutes, and this without going into the street. The possibility of breaking the windows or damaging the shutters is avoided ; and they require no external fastening, their own weight keeping them down. I would recommend these shutters, as well as the principle of the sashes above-mentioned, to your correspondent *Eboracum* (p. 192.), as answering the object he has in view. — *Z. Hertford, Nov. 9.*

A new and elegant little Church was lately consecrated at Weshley, by the Bishop of Sodor and Man. — *W. S.*

A new Chapel has lately been erected in St. Clement's parish, Ipswich. — *Id.*

SURREY — *Dorking.* — A great part of Mr. Hope's valuable collection of sculptures, pictures, and books have been removed to his interesting seat, the Deep Dene, near Dorking, where a new library, a gallery, and an amphitheatre, to arrange and display antiques, have been built from Mr. Hope's designs, expressly for the reception of each class of subjects. (*Morning Chronicle*, Nov. 1. 1836.)

SUSSEX. *Chapel of Ease at Brightlingsea.* — The chapel has been erected at an expense of nearly 1400*l.* ; which sum, with the exception of 300 guineas given by the Society for Building and Repairing Churches and Chapels, was raised by the subscriptions of the parishioners of Brightlingsea, and the clergy and other inhabitants of the neighbourhood. The chapel is constructed with white bricks, and is of the Early English character. The western elevation is extremely picturesque and characteristic. The tower is placed at the south-west angle of the building, containing a staircase to the gallery ; the principal entrance door is placed on the west side of the tower, with two lancet windows over ; it is then played off from a richly corbeled cornice to a light and elegant octagonal lanthorn, crowned by a graceful spire. The elevation is completed by a uniformly steeped gable, containing three lancet windows, the highest of which is 25 ft. The windows on the north and south sides are of the same character as those on the west front, divided by buttresses, with a steep pitched roof, so peculiar to that style. Its internal dimensions are 76 ft.

by 50 ft., affording accommodation for nearly 900 persons. From the use of moulded bricks for the ornamental portion of the building (in lieu of stone), the architect (William Mason, Esq., of Ipswich) has been enabled to construct this edifice, giving a greater accommodation, at less expense, than any other church hitherto built. (*Essex Standard*, from *W. S.*)

Petworth. — The Earl of Egremont is causing a number of handsome almshouses for the aged poor, with schools for children attached, to be erected on his estate at Petworth. — *W. S.*

WARWICKSHIRE. — *Bishop Ryder's Church, Birmingham.* — The Committee have decided in favour of the plans of Messrs. Rickman and Hussey. — *Id.* London, Oct. 1836.

The Litchfield and Tamworth Banking Company are about to erect a new branch banking house at Birmingham. Messrs. Bateman and Drury are appointed the architects. — *Id.*

Shakespeare's Monument, and the Chancel of Stratford Church. — The "Warwickshire," in conjunction with the "London Committee," appointed to preserve the monument of Shakespeare, and to repair and restore the chancel of Stratford church, propose to make a new inner roof to the chancel, in a style and character to harmonise with the windows and architectural features of that beautiful edifice. In accordance with a system which prevailed in "the olden times," when churches, chantries, towers, and chancels were frequently built, and sumptuously enriched with painted glass, and with armorial shields and insignia on the roofs, friezes, and other parts of the said sacred works, at the cost of different lay and secular persons, it is proposed to adorn the new ceiling of Stratford chancel with the arms of such noblemen and gentlemen of the county as may wish to have their family emblazonments thus recorded, and placed in a most interesting building, and in immediate association with the most eminent poet of the world. As it is intended to make a richly ornamented ceiling, with principal and smaller ribs, having either bosses or shields at their intersections, there will be a favourable opportunity to introduce the latter; and, when properly emblazoned, they will materially contribute to the beauty of this unique chancel. They will likewise be strictly harmonious; for some of our cathedral and other churches are richly studded with such family memorials and chivalric garniture. The prices for such armorial shields will be from five to twenty guineas, according to their sizes and the quantity of work. From fifty to one hundred shields can be introduced. — *J. B.*, in a printed Prospectus, dated April 23, 1836.

YORKSHIRE. — *York.* — York Minster is undergoing a slow repair: some parts are being rebuilt, and other parts refaced with stone: the whole is being very creditably done. — *Id.*

The York Union and the City and County Banks, forming, with about eleven other houses, the south-west side of Parliament Street, now called the New Market, are just being finished. The City and County Bank, which is in the Grecian style of architecture, has its front and side faced with stone. The ground story is rusticated, and over it are six Grecian Doric pilasters (two stories in height), supporting a regular architrave, frieze, and cornice, with blocking course over it. This building, with the York Union Bank (which is also faced with stone), and the houses between them, forms a very elegant addition to the buildings in the city of York.

A New news-room has recently been completed in St. Leonard's Place, to which it is contemplated that the news-room establishment, now accommodated under the subscription library, may be removed.

A preparatory School is to be immediately erected in the city of York, for the general education of youth. The sum required to carry the project into execution is 8000*l.*, which is to be raised by shares of 25*l.* each.

The York Union Gas Work Company has purchased a spacious piece of land of Mr. Thomas Arthur, situated on the banks of the Foss, in Foss Lane, in

this city, for the purpose of erecting the necessary buildings, &c., for accomplishing the objects of this undertaking. The ground has already been bored, and it was found to be of a good clay bottom. — *W. C. G.*

Beverly. — Beverly Minster, which, in size, is not to be compared with that of York, is also being repaired, under the direction of Mr. Cummins of Beverly, and in a very satisfactory manner: the workmen employed seem to be proceeding with it much faster than those at York. The stone used for the facing is from Bromley Moor, near Tadcaster. A very general method of repairing and cleansing cathedrals and churches has been adopted in the Minster at Beverly; and that is, of laying on the walls in the interior a thick colour, which certainly gives them a cleanly appearance, but, at the same time, so hides the various ornaments, as to make them completely undiscernible. — *Id.*

Sheffield. — *The Cemetery in Sharrow Vale.* — I have very recently visited the cemetery at the entrance into Sharrow Vale, a place peculiarly dedicated to the dead, and, at the same time, a beautiful resort for the living. In the site of this establishment judgment and taste are equally conspicuous: it is within a mile of St. Paul's Church; on the immediate verge of the town, and approachable by an excellent road; the slope of ground it occupies is between five and six acres, and it commands a horizon of as many miles. Directly on passing the lodge (a handsome stone building in the Doric style, at the foot of the hill), a broad gravel walk leads to the lower range of vaults, in the front of which there is a pleasant grassy lawn by the side of the river Porter, which is here thickly shadowed over with oak, and ash, and elder. Parallel with these vaults, and forming a stage above them, a long-continued series of catacombs, surmounted by a parapet, ornamented with Egyptian balustrades, sweeps with graceful curvature along the next elevation. This parapet divides the lower from the upper grounds, and forms a barrier on the left of the carriage road in its ascent from the lodge to the chapel, a very handsome and substantial edifice in the Doric order, with a portico of fluted columns and a pediment in the front. The interior of this chapel is more than sufficiently capacious for the performance of the solemn rites of burial; and, if not spoiled by a desire of doing too much, it will be a neat and pretty structure, and exactly fitted for the purpose for which it is designed. It is now, however, in an unfinished state, and, therefore, not a proper subject for critical remark. Immediately behind the chapel there is a deep excavation, which, if properly managed, may be made a beautiful dell; one side is occupied by a range of vaults, the other is now a naked perpendicular rock, which, when adorned with ivy, foxglove, and tufts of heath, with healthful foliage at the base and along the summit, may be rendered sufficiently picturesque to be a pleasing feature in the scenery of this cemetery. From the chapel an ascending walk leads to the minister's house, an elegant stone building, *not entirely Doric*, which is situated in the higher part of the grounds; and here, directly in front of this delightful residence, let the visitor pause and gaze around him. The descending foreground is here well wooded, and the eye glides over the tops of the trees to the opposing slope beyond. The first object presented is the Collegiate School, a neat building, newly erected, in the Tudor Gothic style of architecture; a little on the right, finely embosomed in trees, is Broomhall, formerly the residence of the Rev. James Wilkinson, vicar of Sheffield; a man who, as a magistrate, a neighbour, and a minister of the Gospel, has had but few equals any where; and still more to the left, are the Horticultural Gardens, the pride of Sharrow Vale, and the boast of the town; the Swiss cottage among the trees, the splendid conservatory with its three glass domes beyond, the noble Doric entrance on the right, and the curator's house on the left, all surrounded with floral beauty, together with the fine foliage about Broomhill, and backed with the grand imposing range of buildings on Mount Pleasant, and the woody screen above Pisgah, constitute a picture of uncommon richness in objects and rare in beauty. These two establishments, the

Cemetery and the Horticultural Gardens, appear as if they had been formed to suit each other by a reciprocity and interchange of their own peculiar attractions: they both bestow and receive advantages from the situations they occupy; they thus serve each other, and the benefit is mutual. Where the artificial adornments of Sharrow Vale terminate, a country of great sylvan beauty succeeds, which is continued along the line of the river Porter, from Brocco Bank Wood and Endcliffe on one side, and Greystones on the other, to the moorland wastes that border the mountainous districts of Derbyshire.

Mr. S. Worth, to whom the direction and management of this place has been confided, has displayed both taste and judgment in the general disposition of the grounds; and the architectural structures with which they are adorned are alike creditable to his talents. He has made this cemetery a delightful spot for the living, and a safe depository for the dead.

But, notwithstanding the excellence of his contrivances, the architect of this establishment must submit to be told, that his designs here are not entirely faultless: in other words, the different parts do not all harmonise with each other. It may, therefore, be worth while to enquire to what extent the established rules and requirements of art have been violated or trespassed upon on this occasion. The ornamental gates leading from the Eccleshall road to the entrance into the grounds indicate, as they ought to do, the general style that should pervade the whole place; which the architect evidently intended to be Egyptian, as the two needles, or obelisks, sufficiently denote. To this novelty it may be objected, that they are too diminutive; and, farther, that as ornaments they should never be used in *pairs*. The obelisk should always stand alone; and its most legitimate use is, to mark the termination of an avenue or vista. This *Egyptian* gateway leads to the entrance lodge, which is a *Doric* structure; passing the lodge, the vaults, and the balustrades that crown the upper tier, are decidedly Egyptian; so is the flight of steps that ascends to the front of the chapel, a purely *Doric* temple in style and form, with an *Egyptian* door and windows; the minister's house above is likewise in the *Doric* style, and the two entrances above are Egyptian. Yet, after all, I know not that these innovations may not be defended against a whole host of cavillers. If the architect of the present day is to be fettered, and manacled, and bound down by the arbitrary rules and requirements of more than two thousand years ago, what defence can be set up for the liberties so freely taken by the celebrated Mr. Nash, to whose admirers I leave the vindication of the designer of the Sheffield Cemetery, which, with all its faults, Mr. Worth may justly be proud of. It is indisputably one of the most beautiful establishments of the kind in the kingdom. Some of its principal attractions are, no doubt, attributable to the situation so happily chosen by the committee; but the many advantages it presented have been made available by the skill and taste of the architect. And yet, although much has been done, something still remains to do; sculptured vases, which may be had in artificial stone, at but little cost, and occasionally a funeral urn, with an appropriate pedestal, might be advantageously introduced into these grounds; they would greatly improve the effect of the whole, and impart to it a more splendid and a more classic character. Within the narrow confines of this hallowed dormitory, more than two hundred and fifty catacombs have been prepared for the reception of the dead.

There are now but few establishments of this description in the kingdom; their number, however, cannot fail to be greatly increased, as the practice of burial within the streets of a crowded population is now almost universally condemned. Such a practice is not only noxious in its effects upon the living, but it leads to indecent and revolting outrages, at which humanity shudders. The good sense and correct feeling of the present generation will, it may be hoped, reform this evil altogether. (*Sheffield Mercury*, Aug. 27. 1836.)

SCOTLAND.

A Highland Hut. — I shall now describe a hut, such as I have seen inhabited by strong, healthy, and, to all appearance, contented people; and, in doing so, I would express my hope and belief that such dwellings in the Highlands must soon take their place amongst the things that have been; the means being now in progress that soon must assimilate them with their southern neighbours. The Highland proprietors are now letting their farms to south country farmers, who take with them male and female servants; and these persons intermarrying with the natives, thus disseminate a taste for comforts not previously thought of. *Infant schools* have also been established in many of the towns, and patronised by the gentry; which, in conjunction with the great number of tourists, who, since the formation of good roads, annually circulate large sums of money among the innkeepers and others, promise fair to bring about a salutary change.

A Highland hut is composed of a wall of turf, or turf and stone, in alternate courses, which is carried up to the height of between 5 ft. and 6 ft. This wall is of great thickness, and tapers on the outside from the bottom to the top. The doorway is low, and the door made of wickerwork; or, if of wood, it is of the rudest description. An apology for a window is formed by a square hole about 1 ft. in diameter, with a wooden or wicker door, to shut at pleasure; or sometimes of fixed spars, 1 in. or 2 in. apart, having movable spars, corresponding to the intervals, which move in grooves, and can be shut when it may be desired. The roof is constructed by placing two trees, naturally inclined; so that, when the root end rests at the base of the wall, their tops meet; and, when such as are naturally inclined cannot be had, the same result is produced by joining at the proper height a suitable piece. These couples are joined together by tie-beams, and to the other couples by small trees or split trees, the whole being made fast by wooden pegs. On this the roof, which is composed of turf and heather, or turf and broom, is laid, and, when well executed, effectually guards the inmates from wet or cold. On entering one of these huts, you generally have to traverse the breadth of the building behind an outer wall, and then you find another doorway, every precaution being taken to shut out the air. As there is no chimney, the smoke from the peat fire on the hearth, after filling the upper part of the hut, finds egress by holes in the roof as well as by the window-hole and doorway. The sleeping-places are placed beside the wall in the same apartment. — *G. M. E.*

Norwegian Cottages, as compared with those of Scotland. — The sense of comfort, cleanliness, and order in domestic concerns appears to me more generally developed among the working class of Norway than in Scotland. The wooden floors and side walls, the abundance of glass windows in the meanest habitations, and the outside store-rooms and accommodations, distinct from the dwelling apartments, keep the inmates, and especially the females, and their habits of living, in a much more cleanly and orderly state than it is possible for those of the same class in Scotland to enjoy; with their earthen floors and roofs and side walls, their single pane of glass window, and their single room for all ages and sexes, to cook, and eat, and sleep in, and to hold all the clothes and stores of the family. (*Laing's Norway.*)

New Lamp for Railways. — There has been lately erected by the active manager of the Railway Company (who has also the merit of the discovery), at the head of the inclined plane in St. Leonard's Depot, a lamp of a new and admirable construction, which describes a circle of light of about 30 ft. in diameter, of the apparent intensity of sunshine, showing the objects within its sphere as distinctly as those on the table of a camera obscura. The object which the manager had in view was, to enable the engine-men to have a distinct view of the working of the inclined plane ropes during night; and this has been fully attained. The lamp consists of an argand burner placed in the focus of a large speculum of a peculiar form, by which the whole light is distributed just on the space where it is required. It is computed that the light

on the above space is equal to that of twenty-five to thirty similar burners in common lamps. We are told Mr. Rankine's name for it is the conoidal lamp, probably because the light is thrown from it in the form of a cone. A lamp of this kind might, we have no doubt, be useful for other purposes: it appears to us that the largest assembly room might be brilliantly lighted by one placed at each end of the room; and one would be sufficient to light the stage of a theatre. The cost of this one is said to have been about 20*l.*; but we understand it saves an annual expense of nearly half that sum. (*Scotsman*, Feb. 20. 1836.)

LANARKSHIRE. — *Glasgow.* — The highest chimney shaft in Scotland was finished last week at the Springfield Works, in this neighbourhood, the extreme height being 232 ft. It forms a very fine object from the Glasgow Bridge. (*Glasgow Courier*, Oct. 1836.)

Superiority of low Chimney Shafts properly constructed, over tall Chimney Shafts constructed in the usual Manner. — A discovery has been made in chimney-building which is likely to put a stop to the building of lofty pillars, for the purpose of carrying away engine smoke from manufactories. The only scientific reason assigned for building these lofty shafts is, that the increased height gives an amazingly increased draught. But it was found that a chimney of the ordinary height, or, at most, 60 ft. or 70 ft., which is so constructed as to have the inside of the flue narrowest at the bottom, and gradually widening as it ascends, has the effect of increasing the draught and burning the smoke in a much greater degree than is produced by a tall flue on the old principle. A chimney built on the new principle has the appearance outwardly of a tower, as it stands upon a large base, and carries its width on the outside to the very top. The cost is not one third of that of one of the tallest chimneys; and the danger from falling is comparatively small. Messrs. Clarke, cotton-spinners, in Glasgow, have completely proved the superiority of the new system, having recently built a chimney on that principle, about 70 ft. high. (*Carlisle Patriot*, Jan. 1837.)

PERTHSHIRE. — *Perth.* — The foundation-stone of the City and County Infirmary was laid on October 5. 1836, with masonic honours, the members of several lodges being present. The architect is our esteemed correspondent, W. M. Mackenzie. (*Perth Constitutional*, Oct. 8. 1836.)

IRELAND.

DUBLIN. *The Beau Ideal of a comfortable House.* — I have some thoughts of building myself a new house in the county of Wicklow, near Rosemount, looking down on the sea on one side, and the "meeting of the waters," on the other; a situation which I think is unparalleled in beauty in any part of the neighbourhood of Dublin. I have the vanity to think that I could lay out the interior of a dwelling-house on better principles than have yet been followed here at least. I do not propose to do anything out of the usual routine observed in the best houses, in respect to finishings or ornamental work; but I shall endeavour to distribute it so as to avoid all lath and standard partitions, and to render it as nearly fire-proof as circumstances will permit. I intend, likewise, to have a thorough system of ventilation in all the principal rooms, by providing for the ascent of the heated air from lamps, &c., into the spaces between the ceilings, the deafening of the floors above, and its escape from these receptacles by flues, made of light earthenware, to be built into the gables (nearly in contact with the strong fire-clay tubes which will form the smoke flues), and continued upwards until they reach the height of the vacant space between the ceilings of the attics and the boarding of the slates, where the hot air will be discharged, and will find its way out through the slating. The object of not continuing these foul-air flues to the summits of the chimney-stacks being to avoid the chance of smoke or soot ever being drawn down by a reverse current.

In order to provide a supply of air for this ventilation, and to prevent it from affecting the current required for the fireplaces, I shall have a large

aperture on each front of the house (about 2 ft. square or 4 ft. of area) in the basement story (which the nature of the ground makes 20 ft. below the dining-room floor). The air, flowing in by one or other of these openings, will pass into the well of the staircase, but, in its way, will have to brush over a heated surface of about 70 ft. of area, by which it will acquire a temperature sufficiently high (under 60° Fahr.) to render the whole interior comfortable, leaving but little to be done by the fires in the rooms, and thereby much reducing the quantity of fuel to be brought into them, and the consequent dust and ashes to be removed from them. The cornice over each door will conceal an opening, 3 in. or 4 in. wide, along its entire width, by which the air required for the current of the fireplace and for the foul-air flue will be plentifully supplied from the great reservoir, the staircase.

The site on which I think of building is on a crescent-formed rock, of small radius; consequently the house will be much wider at the back than in the entrance front (area 32 ft. front, 52 ft. deep, 40 ft. back front). You are aware that in such houses the dining-room is generally parallel to the gable, and the principal drawingroom to the front, taking in all the three windows. The consequence of this distribution is, that the partition separating the principal from the second drawingroom crosses the ceiling of the dining-room; and must either be made of lath and standards, or, if of brick, there must be an iron beam to support it. In the first case, a dangerous communication for fire up to the very roof is established in the heart of the house (as I have seen in several recent cases of fires); and, in the other, the danger is hardly diminished, when the floor is allowed to communicate with or touch the iron beam, as the constant vibration in which the floor is kept by the movement of the inhabitants must be conveyed, in some small degree, to the beam and its load; and, unless it be of excessive and needless strength, may at last overcome it. An eminent Dublin architect was obliged, some time ago, in erecting a public building, to carry two brick partitions across the ceiling of the largest room. He did this on well-made cast-iron beams, of very moderate scantlings; but he took the precaution of insulating them so completely from any connexion with the floors, that no tremour is excited in the partitions by any movement on the floors. I shall adopt this scientific precaution, if I determine on dividing the drawingroom floor into three spaces; but, as the area is so considerable, I shall probably make a suite of four rooms, connected by folding-doors, which distribution will enable me to carry up stone or brick walls all the way from the foundations to the roof.

You will, no doubt, be pleased to hear that more than a year's experience of my gas kitchen has only confirmed us all in our liking of it. By means of it and the ventilating chimneys, every thing goes on pleasantly, even when a large dinner is in preparation; as there is no perceptible difference in other parts of the house, when such things are going on below. The fire is applied to the pots only, and not to roasting the cook. I believe there is only another person in Dublin who employs gas in cookery besides myself.

I have lately been trying an experiment, with the aid of Mr. —. I have in my present house a room of 28 ft. long, lighted by one window at the end: it was lined with crimson flock paper, and was, consequently, very sombre in the daytime, and, in consequence, was seldom used but at night, when it could be lighted up. I got Mr. — to strip it, and to paint the walls of a very tender fawn colour, hardly off white: this is grained like morocco leather, and a pattern of gold rosettes laid on it, with a thin coat of copal varnish over all, which dims the gold a little, and gives a delicate gloss to the whole. The ceiling and woodwork are done in dead white, of the strictest purity; and such parts of the mouldings as reflect light are gilded: the other parts are left white, as gilding which does not reflect to the eye appears as a black line. The effect of this room is even better than I anticipated. When the carpet is up, and it is lighted for a ball, it is particularly cheerful. I should have mentioned that the floor is painted in flat white, with a border like the work on the walls. The chimney mirror is sunk in the wall, in a frame of white marble.

I fear I may tire you by such *bavardage*; but, as I know you have rational improvements in dwellinghouses very much at heart, I hope you may not think the time required to read this letter altogether thrown away. — *J. M. Dublin, Dec. 11, 1836.*

ART. II. Retrospective Criticism.

ERRATA.—In Mr. Bland's "Essay on the Principles of Construction, &c.," in Vol. III. p. 506. line 1., for "Loore" read Loose;" and in the same Essay, p. 511. line 12., for "until they meet at a b," read "until they meet at L."

Collie's Cathedral of Glasgow. (Vol. III. p. 522.)—I think you have hardly awarded to Mr. Collie all the praise which his highly interesting, useful, and laborious work merits. It is one of the most useful works on Gothic architecture that I have seen; and Mr. Collie appears to have entered into his task with a feeling far beyond the ordinary one of pounds, shillings, and pence. The specimens are drawn to such a scale as will give the student an opportunity of seeing by what means the architects of the middle ages produced their effects; and the views, which are drawn in a most spirited and masterly manner, are beautiful illustrations of their science. — *E. B. L. London, November 6.*

Mr. Griffith's Chapel. (Vol. III. p. 562.)—What, more temples! another cast from the same mould! It is really surprising, in spite of the evident progress the art of design has made within a very few years, that any one professing to call himself an architect should do nothing but copy. Beautiful as the temple on the Ilyssus is, it ceases to please when in every street, nay in every part of the country where new buildings are erecting, from the church to the gin palace, from the mansion to the humble (as it ought to be) cottage, from the assembly house to the prison, we find the same temple; varied, certainly, in its dimensions, but the always-to-be-used four columns, entablature, and pediment, whether the pediment is the termination to the roof, or merely abuts against the wall, which sometimes necessarily continues over it. Now, we have it for the thousandth time applied to a chapel; a mere copy in all its details, except the fluting to the columns, from the steps to the top of the pediment; and called a design for a cemetery chapel; while, if the architect had gone to a print-seller's, and got the leaf out of Stuart's *Athens*, he might have been saved the trouble of drawing. This is the very mockery of architecture; this is not the noble art that calls forth the greatest energies of the mind; this is not the result of contemplation and unremitting study! And look at the elevations, with the additions required to form a chapel: a clock in the tympanum! without the least decoration; and a belfry riding astride the roof! But the artist must have been aware of these latter defects in his design; for he says, modestly enough, that, "if introducing the clock and belfry in the principal front should be supposed to interfere with the beauty of the portico, they can be placed in the back front of the chapel." This reminds me of the modesty of a sculptor who was called upon to restore the arm of Venus. When he was prepared to unite the severed limb, he was so overpowered by the exquisite beauty and elegance of the goddess, that he laid the new member at her feet in despair, as he felt that all his skill could not bear the least approximation to so wonderful a work of art. — *Zero. London, Dec. 1836.*

Lamb's Villa. (Vol. III. p. 456. and p. 584.)—Mr. Tate's remarks on my villa (Vol. III. p. 584.) can hardly be called criticism, as he has evidently made up his mind to what he considers a mistake, without sufficiently examining the plan. If he looks at it again, he will find three steps up to the level of the floor of the porch, besides one to the entrance of the hall; and only one to the back entrance to the kitchen, &c.; so that there must be a descent to the kitchen by the study door of three steps; which, coming exactly under the steps to the second landing, could not be shown in the plan. Now, the nine risers from the hall are each 7½ in. high, which will give from the hall floor

5 ft. 5½ in. to the first landing; and, as there are four risers to the second landing, 2 ft. 5 in. more will be gained; so that there will be 7 ft. 10½ in. to the second landing from the hall floor; and, as there will be three risers, or 1 ft. 9¾ in. from the floor of the kitchen passage to the hall floor, which, added to 5 ft. 5½ in., after having deducted 8 in. for the thickness of the bearers of the first landing, will give 6 ft. 7 in. clear headway; so it must be obvious, that, if persons who have occasion to go through this passage are not of an extraordinary height, 6 ft. 7 in. will be sufficient headway. I am quite sure that Mr. Tate would not have made the remark he has done had he entered the house at the porch steps, and left it at the back step. By merely passing through in that way, he would have found it necessary to descend three steps to the kitchen passage. I think this explanation will satisfy Mr. Tate, without the necessity of a section. But, in some future Number of the *Architectural Magazine*, I purpose giving some views of interiors of halls and staircases, and showing how their character may be improved by very little extra expense than in the present commonplace manner. The scale to the design in question is 10 ft. to half an inch.—E. B. Lamb. 25. Henrietta Street, Brunswick Square, December 2. 1836.

G. B. W.'s Truss. (Vol. III. p. 285.)—I have hitherto been prevented from answering Mr. Coles's second article upon my design for a truss. I regret this the less as I hope that, after so long an interval, he cannot suppose I now write either "in haste" or "in anger." Before I proceed further, I must appeal against the manner in which he garbles my sentences. He says, "G. B. W. tells you he writes in haste," &c. Now, my words were, "I hasten to reply;" which, I am sure, you will admit is very different to writing in haste, or in a hurry. Mr. Coles's attempt to be facetious about a "truss of haste and anger" must, therefore, fall to the ground. As to anger, I assure you and him that I felt none; but a part of his communication, to which I shall presently draw your attention, warrants the supposition that it was he who wrote under a feeling of irritation. Mr. Coles thus proceeds:—"Why, he coolly says" (accusing me, in one breath, of writing both *in anger* and *coolly*!), "if the span were less, it (the lower king-post) might be dispensed with entirely." Certainly I do; for the principal rafters and straining-beam form the same species of abutment truss which he lauds so much in the Drury Lane roof; and in this consists the similitude between the two trusses, which he and Mr. Cook find it so difficult to discover. In Mr. Coles's own design, the truss is much more dependent upon the queens than mine is; and there is the same "want of continuation in the principal rafters" which Mr. Coles's "able" ally Mr. Cook complains of in mine! Mr. Coles then states that he "has turned to Nicholson's *Carpentry*, according to the friendly advice of G. B. W." (a sneer which to me is perfectly incomprehensible and pointless); and that he has there discovered a truss in principle precisely the same as mine; "only there the queens derive the whole of their support from the king, instead, as in G. B. W.'s design, the king from the queens;" and to this he refers me. I have examined it, but do not consider the principle similar to mine; as the rafters are in one length, and there is no straining-beam. The merit, too (if merit there is), of this truss does not belong to "our good friend Nicholson," but to Batty Langley; as Mr. Coles will see by turning to his *Builder's Jewel* (published in 1741), in which is a fac-simile of the design alluded to. It is scarcely worth while to comment upon Mr. Coles's concluding sentence; for your readers have only to turn to Mr. Cook's article, and they will see that what Mr. Coles takes the liberty of putting into Mr. Cook's mouth is purely an invention of his own; and, were I as ignorant as he would make me out, my design would not have obtained the conspicuous place which you, Sir, were pleased to assign to it in the *Architectural Magazine*; nor would it have called forth the erudite critiques of your "able" and "experienced" correspondents.

I shall be glad to learn from Messrs. Cook and Coles whether they consider the *scarfing*, which they have condescended to borrow from the design of one

"who knows nothing at all about a truss," is as faulty as the rest of that design? I did hope that I was entitled to the merit of this, at least; but, alas! I suppose that the "experience of many years' practice" must have suggested it to the one, and that it must have occurred to the other "some few years ago!" And, as I am "not acquainted with the construction of roofs on a large span," perhaps Mr. Cook will enlighten me (and such of your readers as may be in the same unhappy state of ignorance) upon a few points which he appears to consider as too commonly understood to require explanation. Will he furnish some description of his "cast-iron chairs," and state what advantages may be derived from their use, and why they are better than stone corbels? Also, whether he considers 10 ft. by 3½ in. "a proper scantling for struts to a roof of such large dimensions?" And, perhaps, Mr. Coles will give your readers the information as to the scantlings of his truss, which I required of him nine or ten months ago?

In conclusion, I must say that I do not think I have been fairly treated by your correspondents: I sent my design on account of the *principle*, and not the *details* of its construction. I did not send the drawing to you, as I should have done to a workman, with every point studied, and every trifling timber in its exact position. Had I wished to do so, the scale to which it was drawn, and the small space afforded by your pages, would have precluded the possibility of its being effected; and I may add, that the designs of Messrs. Cook and Coles would by no means stand a minute criticism in that respect.

I should not have written at so great a length, had not the unpleasant tone of Mr. Coles's article called for an answer from me; but I trust that he already regrets having made a statement which he is utterly unable to support.

— G. B. W. London, November 28.

Whiting's Patent Sashes. (Vol. III. p. 96.)—Your correspondent A. W. S. very justly complains of the annoyance occasioned by the rattling of the sashes, which prevails more or less in most houses with sash windows; in the majority of these cases, the cause I take to be (with all due deference to the opinion of Mr. Medcalf, Vol. III. p. 238.) the inferiority of the materials of which they and the frames are composed. Mr. Medcalf's remarks are very good; but, were the directions therein given to be fulfilled to the very letter, in preparing an ordinary cased sash-frame and pair of sashes with unseasoned materials, and they were to be fixed and made to act in the spring of the year, I am disposed to think they would, at the end of the following summer, evince pretty strong symptoms of rattling: indeed, I do not see how it could be otherwise, taking into consideration the number of divisions, or alternate substance and space, of the same material comprising them, and the exposed situation in which they are fixed. I have seen a specimen of "*Whiting's patent sashes and frame*" at the house of his agent here, which appear to me to be well adapted for avoiding the above-named annoyance, and require only to be better known to insure their more extensive use. The frames are of solid deal, in which are square sinkings for the reception of the leaden weights; over these are fixed beaded linings, which also conceal the lines, and form small grooves to receive the metal tongues, fixed in the styles of the sashes: a metal tongue is fixed in the head, and another in the sill of the frame, catching the top and bottom rails when the sashes are shut; the meetings are beveled, and fastened with a common brass sash-fastener. The whole forming a very compact air and water tight window. — Z. Hertford, Nov. 9.

A Plan by which the Lines, &c., of hung Window-shutters may be concealed. (See Vol. III. p. 192.)—A friend of mine, a few years back, executed a plan which perfectly succeeded in producing the above effect. The shutters are made in two heights, hung as mentioned by Eboracum; and they slide down into a case, the side of which is formed by the window-front. This case is closed at top by a flap, hinged on the outer edge, which conceals the shutters when they are down, and supports them when they are up. There are

Whiting, Esq., architect and county surveyor, Ipswich.

similar flaps to cover the pulley-styles and lines; but they are hinged on the inner edge, and they unite with the architrave, and effectually hide the lines, and keep the first-mentioned flap in its place when the shutters are down. These flaps are thrown back, when the shutters are up, between them and the sash bead of the window; sufficient space to allow of this being left between it and the inner edge of the horizontal flap. — *R. V. Iminster, July, 1836.*

Polychromic Architecture.—In the advertising sheet of your November Number, there is a paragraph directing attention to this mode of decorating buildings; I should not be surprised to see it adopted on the fronts of some of our street houses. I should, however, be sorry to see a gin palace decorated *polychromatically*, as it would damn the subject at once; but I should really like to see one of our first-rate shops, in one of the public thoroughfares, decorated in that style; but it must be by a man of refined judgment and sound taste. I am convinced it would answer well. The public would, at first, be offended, perhaps, by the novelty; but it would be a lesson of taste to all, and time would do much to reconcile at first, and then to approve, the now strange attempt. At Paris the shops are, I understand, fitted up with the most exquisite taste; the walls covered with the most delightful painting, and medallions interspersed, well worthy preserving in a cabinet; and all this with a refinement and judicious selection, proving that the employers themselves have the judgment to choose the first artists, and to leave themselves to be directed by their taste; not employing, as they do here, any one, whether carpenter, upholsterer, or modeller, or what not, but the first-rate men, and paying them well. The Parisian citizens will lay out thousands of francs in the mere decoration of a shop. Gau of Paris has fitted up, years since, a coffee-house, in the Pompeian style, in a mode quite equal to that of the ancients. Here, we have nothing of the sort, except a vestibule to the house No. 33, Russell Square, belonging to M. Mocatta, which was tinted à la Pompeiana by his son, when he returned from abroad, some years since, with his eye fresh from the contemplation of those extraordinary works of antique art. — *S. T. W. London, November, 1836.*

Mr. Sopwith on the Principles of Design. (Vol. III. p. 394.) — Concurring with Mr. Sopwith, in his opinion, that “the first and most universal objects in architectural design are fitness and economy (these, in their true sense, are essential to every work of contrivance), and that, if not accomplished, they always are, or ought to be, attempted,” I feel sorry to say that I have met with many instances of these essential qualities being neglected; one of which now forcibly occurs to me, and which I will mention. About seven miles from Dublin, there is a fast rising town, called Kingstown, where (as I go along, I may remark) your talented correspondent Mr. Mallet is erecting a very large crane. At this place there is now in progress of erection a building designed for, and intended to be designated, a “Mariner’s Church.” Now, whether we look at the exterior, or view the interior, of this edifice, we find it extremely difficult to trace any connexion between its name and its appearance. Fitness and economy are here alike laid aside; and, though its appellation is to be the “Mariner’s Church,” yet it would seem, both from its external appearance, and its internal arrangement, that no mariners were expected to come here, but those distinguished by their epaulets, or such like marks of honour and dignity, and whom, it might be supposed, had learned how to conduct themselves on a cushioned seat, with arm-rests; as, strange to say, it is intended to divide each pew into single sittings, each sitting to have on either side rests for the arms; but, assuredly, it is not intended for those accustomed to the rough toil of a sailor’s life. Not one of that class could feel himself comfortable in such a church, but, on the contrary, he would be led to think himself an intruder. I should, however, remark that my judgment has been formed from the plans, &c.; for the principle of economy has been so despised and neglected, as to prevent the edifice having the appearance of making rapid progress towards completion. Should it be finished as it has been designed, it will be costly far beyond its character; but I do

not think that it is at all probable it will be finished: should it so happen, I am confident that its erection, if persevered in as at present designed, must inevitably entail very heavy debts on those who shall come after its present projectors. — *G. P. Dublin, October 10. 1836.*

We shall be happy to receive the drawing offered to us by this correspondent. — *Cond.*

On the Construction of Oblique Arches. (See Vol. III. p. 251.) — A letter on this subject by Henry Welch, Esq., of Elswick Villa, Newcastle, surveyor of the county bridges of Northumberland, addressed to Peter Nicholson, Esq., of Newcastle, has been published in the *Newcastle Journal* of Nov. 19. 1836. This letter has been copied into the *Phil. Mag.* for Jan. 1837, from which it appears that Mr. Fox is not the inventor of the "proper and certain rule" for the formation of the stones for building oblique arches, but Mr. Nicholson. Mr. Welch says, "I deem it right to state, that in your book on Masonry and Stone-cutting, published in 1828, there is an elaborate illustration for the working of the spiral, or twist, upon the stones; and the explanation is so clear, that Mr. James Hogg, operative mason, residing at Brandling Place, Newcastle, has certified that, in 1834, he built an oblique arch entirely from the instructions which are given in your book; and so certain did I feel of the practicability of your rule, that I have adopted it upon the river Coquet, at Felton. The chord of the arch being 33 ft., and the angle of obliquity 19° ; and in which case the stones were cut, or dressed, previously to the erection of the centre. Having received your approval of the arch, as being in accordance with your design, I think there can be no doubt that your claim to the rule for the proper formation of the stones is prior to that of Mr. Fox; and I have yet to learn that any rule exists by which the oblique arch can be so truly built as the one which you have published."

ART. III. Queries and Answers.

A DESIGN for a new Town Hall wanted for a Borough Town. — In your *Architectural Magazine* I observe the laudable spirit of emulation fast growing among the aspirants for architectural fame; and many gratuitous contributions of plans which adorn your pages: from which, it seems to me, it would not be objected to if I were to propose a subject for your contributors to exercise their talents upon. In a small but ancient borough town, now rapidly improving, the old town hall is so far decayed as to be considered not worth repairing: a new one is desired, to consist of a room about 40 ft. by 25 ft., with a window at one end wide enough to allow parliamentary candidates, their proposers, and seconders, to appear at before the constituency. This room is to be raised on arches, and the spaces fenced with iron rails; the ground floor to be a market-house, which might be extended by sheds, the cost to be about 800*l.* — *G. R. Flintshire, Nov. 19. 1836.*

ART. IV. Institute of British Architects.

DECEMBER 19. 1836. — C. Barry, Esq., V. P., in the chair. The minutes of the last meeting were read. The balance in the treasurer's hands appeared to be 144*l.* 18*s.* 7*d.*

Elected. The following gentlemen were balloted for and duly elected. As Associates: W. Richardson, Architect, York; and T. Hayes, Architect, 7. St. George's Terrace, Hyde Park. As Fellow: W. C. Lochner, Architect, Albion Place, London Wall.

Presented. Parts 2. and 3. of Jones's *Alhambra*, printed in colours, and with gold, from Owen Jones, Esq. Ives's *Remarks upon the Garianonum of the Romans*, two Roman tiles taken from old halls, and a copy of Thompson's *Design for the new Houses of Parliament*, from Mr. P. Thompson.

Essai historique sur le Pont de Rialto, par M. Rondelet, Architect, from M. Baillière, for the author. On the Construction of Theatres, &c., from Dr. Bromel. Evidence relating to the Art of Engraving, taken before a select Committee of the House of Commons, from J. Pye, Esq. Fragment of a tile taken from the chancel of the church at Hadzor, near Droitwich, from M. Habershon, Esq. Fragments of tiles from the Church of St. Peter's at St. Albans, from J. B. Gardiner, Fellow. *L'Architecture Moderne de la Sicile*, folio; *Les Antiquités inédites de l'Attique*, folio; and *Recueil des Décorations exécutées d'après les Dessins de J. Hittorf et Lecoigne, Architectes*, pour le Batême de S. A. R. le Duc de Bordeaux, folio; from M. Hittorf, Dallaway's Discourse upon Gothic Architecture, from P. F. Robinson, V. P. Various specimens of marble from near Haverford West, from H. L. Keys, Fellow.

Read. A paper giving an account of an Imitation of Black Marble, invented by Mr. R. Davies of Newcastle, accompanied by specimens. A paper by J. Britton, Esq., on the Application of the Style and Character of Monastic Architecture to modern Mansions, &c., which will be given below.

Letters. Presentation of the *Sums received by several Architects for their Designs for the new Houses of Parliament to the Institute.* From Robert Wallace, Esq., to T. L. Donaldson and Charles Fowler, Esqrs. — Dear Sirs, I have the satisfaction to acquaint you that I have this day paid into the hands of the treasurer of the I. B. A. the sum of 65*l.*, being the joint donation to the Institute (for the special purposes hereafter to be determined) of the under-mentioned members, each of whom has contributed his proportion of the profits arising from the exhibition of the Designs for the Parliamentary Edifices. Trusting that other members will follow the example thus set, I remain, &c. — Robert Wallace. 41. *Parliament Street, Sept. 8. 1836.*

Contributors. S. Angell, Esq., Fellow, 8*l.* 2*s.* 6*d.*; C. Barry, V. P., 8*l.* 2*s.* 6*d.*; J. Davis and F. Catherwood, Fellows, 8*l.* 2*s.* 6*d.*; T. S. Donaldson, Hon. Sec., 8*l.* 2*s.* 6*d.*; H. E. Goodridge, Fellow, 8*l.* 2*s.* 6*d.*; H. E. Kendal, and — Hopkins, Esqrs., 8*l.* 2*s.* 6*d.*; A. Salvin, Esq., Fellow, 8*l.* 2*s.* 6*d.*; R. Wallace, Fellow, 8*l.* 2*s.* 6*d.*; W. Railton, 8*l.* 2*s.* 6*d.*; P. F. Robinson, V. P., 8*l.* 2*s.* 6*d.*; W. D. Butler, Fellow, 8*l.* 2*s.* 6*d.*: Total, 89*l.* 7*s.* 6*d.* The contributors concurred in opinion that the above sum should be applied as part of the subscription fund for procuring a royal charter for the Institute.

T. L. Donaldson, Hon. Sec., explained some Geological Phenomena connected with the origin and sources of Porphyry, Sienite, Serpentine, and other rare Marbles used in architectural embellishment. — Adjourned to Monday, January 16. 1837.

Mr. Britton's Lecture on the Application of Monastic, or Christian, Architecture to modern Mansions; with Reference to, and a Description of, Toddington, the Seat of Charles Hanbury Tracey, Esq., M. P. — Mr. Britton commenced his essay by tracing the decline of monastic architecture on the dissolution of religious houses by Henry the Eighth, and the substitution of the Italian style by Holbein and John of Padua; and pursued the history of the art to the revival of Gothic in the reign of George the Third, under the auspices of Walpole, Warburton, Bentham, and others. From the absurd attempts at imitation by Walpole at Strawberry Hill, and by other amateurs of that time, he turned with congratulation to the greatly improved and extended knowledge of the style so preeminently manifested in the recent competition designs for the new Houses of Parliament. In the course of this short sketch, Mr. Britton ventured upon some severe but discriminating remarks on the works of Inigo Jones, Sir Christopher Wren, and the late Mr. Wyatt; and endeavoured (in contradiction to Mr. Hamilton and Mr. Wilkins) to defend the architecture of the middle ages, as being much more appropriate to this country, and to the wants of its inhabitants, than the classical pagan temple architecture of ancient Greece and Rome. The lecturer then proceeded to a minute description of the new house at Toddington, which excited much interest, as the work of an amateur architect; the whole having

been designed and erected, during the last twelve years, by the talented proprietor of the manor. From the description of the vestibule, the cloister, the staircase, and the principal façades, we should imagine that this mansion must fully support the lecturer in his assertion of the improved taste, appreciation, and knowledge of the architecture of the middle ages at the present day. For a further and more particular illustration of this interesting building, we shall anxiously look forward to Mr. Britton's promised volume.

ART. V. *Architectural Society.*

THE following address was delivered by the President, W. B. Clarke, Esq., at the opening meeting of the session 1836-7:—"Gentlemen, having been again honoured by you with the office of President, the duty of addressing you at the opening meeting of the sixth session devolves, I may say now say, by precedent upon me. Before entering, however, upon any topics which on such occasions may naturally present themselves to me, allow me to thank you for the honour you have again conferred upon me; an honour which, for your sakes, I could have wished conferred on one who would be of more weight with you by reason of his years, and more valuable to you on account of his profound knowledge of, and of his exquisite taste in, the profession to which we belong. If, in the sincerity of my heart, I give utterance to such thoughts and feelings, it is far from my wish that you should think that I slight the very distinguished honour which by your election you have conferred on me, for, on the contrary, I esteem it an honour; greater than I am well able to bear, as I now feel that you have become a Society of such vast importance to the junior members of the profession, that you require some distinguished professor of our science to give, not merely an importance by his name and station in society, but a sound and useful direction to your studies and to your tastes. I would not have you, or any one, infer by this suggestion of mine that the seed sown in this Society has been unprofitable: indeed, I need hardly appeal to you on this subject, as all who have attended the meetings of this Society must have felt that the sphere of their ideas and tastes on architecture has been considerably enlarged, and that they have acquired much architectural information from the institution of this Society; information which I will venture to affirm is far greater and more valuable than the scanty knowledge and meagre taste acquired in the generality of offices. By this observation I do not mean to depreciate the utility of a student entering the office of an architect, as the office is the only place in which the mechanical part of the profession, and business-like habits and method, can be acquired; yet I contend this to be the maximum of advantage to be derived from such a course of study. To obviate some of the disadvantages of the scanty architectural course of study adopted in England, the Architectural Society was instituted; and since its institution, as a proof that such a Society was necessary, another has sprung up, with views somewhat different from the Society which I have the honour of addressing, yet with views advantageous to science. It was hoped by some lovers of architecture, especially by that excellent veteran in the profession, Sir John Soane, that, for the advancement of professional knowledge and taste, a junction between the Societies should have been effected. I myself, for one, though in opposition to the expressed wishes of Sir John, think that such a junction, if it had taken place, would have been unfortunate, and the chief peculiar advantages which this Society holds out, namely, the cultivation of taste and of the art of design, would have been totally lost sight of. Because, be it observed, the other Society of which I speak touches only on scientific matters connected with construction, and is as limited in its views with regard to the beau idéal of architecture, as it is contracted in its constitution. For such reasons, I think it is fortunate that the valuable views of this Society, which has prospered and in-

creased in importance since the year 1831, should not have been merged and lost sight of in the scientific pursuits of the British Institute; for, while I contend that construction can be better learned during the course of a year's attentive study in the workshops of great builders, than in ten or twelve annual meetings of any scientific society, architectural taste can only be acquired in a society of architects formed for that express purpose, and liberally carrying their views into practice; casting aside the professional jealousy which has been too often the bane of the artist, and the injury of that country for which his talents should be employed. Had this country possessed an institution for the cultivation of the arts similar to that in which France so liberally educates those who embrace the sister arts of architecture, sculpture, and painting, it would have been unnecessary for us to form this Society: we should have been taught by competent professors, and have received advantages valuable to ourselves and to our country. I believe I may affirm, without fear of contradiction, that there is no institution in the world where architecture is taught with so much advantage to the youth who embrace the profession, and to the nation which provides the means, as the École des Beaux Arts in Paris; and so thoughtful has been this nation in the cultivation of the science of architecture, that it has established a school in Rome for the improvement of French artists and architects. What has been the result? magnificent works of art! I will cite but two, well known to many of you. The Temple de la Madeleine and the Arc de l'Étoile; in opposition to which, as almost contemporaneous works of art, we may place, with a sigh, Buckingham Palace, and the Triumphal Arch at Hyde Park Corner. As a Society, we ought to feel proud that, with such humble means, we have been enabled to sustain ourselves in the position in which we now are, without any assistance from the nation, or sympathy from our elder brethren, save the marked approbation of Sir John Soane. I will not enquire now why we have not yet excited the sympathy of our brethren; because I still live in hope that they will see in a favourable light the national advantage to be derived from fostering a vigorous shoot from the parent stock; and that, with a parent's feeling, they will extend to it their valuable aid and protection. In conclusion, gentlemen, I trust that, by our vigorous exertions in the pursuit of architectural knowledge, this useful Institution may become each year more valuable, not only to ourselves, but to the students who embrace the advantages it offers them; so that eventually the Architectural Society may come to be considered a national advantage: and such should ever be the especial aim of the founders, in the formation of all societies."

Dec. 22. 1836.—After the reading of Mr. Woolley's paper (which forms Art. I. in our present Number), Mr. Cowell exhibited a model of his newly invented sash suspender (see p. 72.), and explained to the Society its use and application. The simplicity of the contrivance created unusual approbation.—*G. H. B.*

Jan. 10.—Mr. Alfred Beaumont read a paper on the best mode of warming buildings. The first requisite, he stated to be a complete combustion of the fuel; and the second, a complete delivery of the heat evolved in the place intended to be warmed. Nothing could be more wasteful of fuel than common open fireplaces: only one part in fifty radiates into the room, the great body of heat going up with the draft of the chimney. If a kettle of water be placed before the fire it will not boil in less than twenty-four hours: placed over the fire, it boils in half an hour. If a man stand in front of the fire, he gets only half warmed; the half next the fire is warmed, while the half away from it is chilled: but, if he were to place himself in the line of the draft over the fire, he would soon be burnt to a cinder all round. The ancient Romans understood these things better than the moderns: they carried their flues horizontally under the pavement of the chamber to be heated. A stove on the same principle was erected at the County Fire Office ten years ago, which has answered perfectly; and Mr. Beaumont has erected similar stoves at the elephant-house in the Regent's Park, at Sudbury Grove, at St. James's Church, and other places, with similar success. These simple contrivances

produce a saving of eleven twelfths of the fuel consumed to obtain the same warmth by hot-air and hot-water stoves, and with perfect freedom from dirt, dust, smoke, and impurity of every kind. He was sure they only required to be more known to be adopted in all churches and chapels throughout England." (*Morn. Chron.*, Jan. 11. 1837.)

ART. VI. *Institution of Civil Engineers.*

THE following is a report of the principal proceedings during the last session of the Institution. The presents received have been numerous and valuable. The maps already published of the Ordnance Survey of Ireland (on a scale of 6 in. to a mile,) have been presented by His Excellency the Lord Lieutenant (the Earl of Mulgrave), who has directed the remaining sheets to be sent as they are completed. There have also been promised to the Institution, by the Master General and Board of Ordnance, a copy of the Ordnance Survey of England, and, by the Lords of the Admiralty, the extensive Series of Hydrographical Charts published under their direction.

The above presents show the estimation in which the Institution is held by various branches of the government; and, in addition to them many other valuable contributions have been made, which appear in the annexed list. Among these are, a complete set of the *Philosophical Transactions*, consisting of 118 volumes, which the President has added to the library; and the handsome present from Mrs. Page of about 300 volumes of books, with all the papers and plans relative to civil engineering, collected by her late husband Colonel Page, an honorary member of the Institution; and also the manuscripts, copperplates, notes, and other matter, for a work on Inland Navigation, which he had intended for publication. These, with the late President's professional books and papers, have put the Institution in possession of, perhaps, the best collection, in this or any other country, on the subject of inland navigation.

But, while so much has been done by others to advance the prosperity and add to the importance of the Institution, the council trust that members and associates will not be wanting on their part, and that they will not fail to contribute such original communications before the commencement of, or during, the approaching session, as will prove the interest they take in this Institution. Accounts and drawings of works, as actually performed, will be particularly valued, as well as papers of other kinds; and all will come in competition for the Telford premiums, which are adjudged to the communications best entitled to the honour.

In conclusion, the Institution may justly be considered in a flourishing condition, the attendances during the last session having been more numerous than those of any former period, and there having been an accession of twenty-eight new members or associates; while a purchase of 400l. three per cent consols has been made, making the amount now invested in stock 535l. 3s. 8d., besides the Telford Fund of 1945l. 19s., and the balance in the hands of the Treasurer, 241l. 7s. 3d.

The following original communications have been received in the course of the session:—

Bridges. Description and drawing of a proposed Floating Bridge over the Vistula to connect Warsaw and Praga; by E. Marconi. Drawings of the Pont des Invalides and the Pont de Jéna in Paris; by W. B. Bray, A. Inst. C. E. Description and Drawing of Ruthern Bridge, on the Bodmin and Wadebridge Railroad; by T. Hopkins, C. M. Inst. C. E. Sections of Pont du Carrousel. Drawing; by W. B. Bray, A. Inst. C. E.

Canal Navigation. Calculations and Suggestions; by J. J. Waterston, A. Inst. C. E. Papers on, by Col. Page, H. M. Inst. C. E.

Excavations and Embankments. A new mode of representing and estimating; by J. J. Waterston, A. Inst. C. E.

Iron Piling. Memoir of the use of, with drawings; by M. A. Borthwick, A. Inst. C. E.

Lock-gates. Description and model of a mode of framing of; by C. Ballard.

Machinery. Drawing and description of a Machine used in forming the Harbour of Sarclet, Scotland; by J. Bremmer, C. M. Inst. C. E. Description and drawing of a Machine for clearing away sand from foundations in harbour-buildings; by J. Bremmer, C. M. Inst. C. E. Drawing of an improved Mashing Machine; by R. Moreland, A. Inst. C. E. Four drawings of Hunter's Stone-planing Machine; by Mr. Lindsey Carnegie.

Port of London. Historical account of, and observations on, the Port of London; by C. Bourns, A. Inst. C. E.

Mines. Paper on the mode of working them in South America; by John Hawshaw, A. Inst. C. E.

Railways. Description and drawing of a new Carriage; by Mr. G. Morton. Description and model of a new Chair; by George Baker, A. Inst. C. E. Drawing of a Parallel Rail and Pedestals; by R. Daglish, C. M. Inst. C. E. Description and model of an improved Railway; by Mr. J. Reynolds. Account of the Bodmin and Wadebridge Railroad; by Rice Hopkins, C. M. Inst. C. E.

Rain-gauges. Results of experiments at Greenock and Rothsay, with them; by R. Thom, C. M. Inst. C. E.

Steam and Steam-Engines. On the relation between the temperature and elasticity of Steam; by Thomas Webster, M. A. Three papers on the elasticity of Steam; by Jacob Perkins, M. Inst. C. E. An account of an experiment on the elastic force of Steam; by Mr. John Taylor. Paper on the High-pressure Engines working in the Cornish Mines; by Mr. Thomas Wicksted. On the causes of the difference of duty done by the Cornish and Soho Engines; by Jacob Perkins, M. Inst. C. E. On the improvement of Steam-boilers; by Jacob Perkins, M. Inst. C. E.

Tunnels. Paper on the effects produced by locomotive engines in Tunnels; by Mr. George Smith. A mode of ventilating and lighting them, with a drawing; by Robert Sibley, M. Inst. C. E.

The presents of books were very numerous; but we cannot spare room for their titles.

Various maps and prints were presented; also specimens of concrete, granite, stone and slate, timber, and valves.

The subjects discussed, of which minutes are preserved for reference in the records of the Institution, are as follows:—

Air. Compression of; and of Gases. Elasticity of.

Bridges. Balance Bridges.

Buildings. Methods of restoring them to their perpendicular position.

Centering. On the time and mode of striking. On that of Chester Bridge.

Coals. Weight and properties of different kinds.

Cast Iron. Decay of, in Salt Water.

Cements. Strength of different kinds.

Excavations and Embankments. Method of estimating quantities.

Harbours. Works at Dundee.

Mines. Produce of South American.

Machine. Hunter's Stone-planing.

Railways. Work performed on the Stanhope and Tyne. Day's Continuous Base Railway. G. Baker's improved Chair. Reynolds's improved Rails. Weight of Rails.

Rain. Methods of registering the quantity.

Rivers. Navigation and Tides of the Thames. Improvement of the Clyde. Conservancy and improvement of the Thames.

Safety Lamps. Merits and defects of various kinds.

Steam-Engines. Duty of those in Cornwall. Duty of those in the Fens. Performance and Friction of Locomotive.

Steam. Elastic force of.

Timber. Destruction of, by worms. Preservation of, under ground.

ART. VII. *Society of Amateurs of Art.*

It is proposed to establish this Society for the purpose of enabling amateurs of every art to meet in social intercourse, once or twice a year, or oftener if agreeable, in order to have the opportunity of making the acquaintance of artists, either of eminence or of promise, and to learn the prospects and occupations of art in each season.

For this purpose, it is proposed to hold an evening conversazione prior to the opening of the annual exhibitions, and at such other times as may be deemed convenient and agreeable to the members, which may be attended, upon invitation, by the most eminent artists in architecture and civil engineering, oil and water-colour painting, sculpture, engraving, modelling, &c., and by the members of the Society. All foreigners of distinction, whether patrons of art or artists, who may visit the metropolis, may also be invited at the discretion of the committee of government.

Any member of the Society shall have the right to recommend names for an invitation, upon stating the grounds on which it is deemed fitting that the person should receive one; but the propriety of giving or withholding invitations shall remain absolutely with the committee. The committee for the government of this Society shall be selected from among the members at large. The printed list contains twenty-five names, best known to the public as patrons and admirers of art, who have consented to form the first committee of government. Vacancies by death or resignation shall be supplied by ballot from among the whole body of the members of the Society.

The Society shall consist of both ladies and gentlemen, and of any limited numbers that the committee may determine. All future vacancies or additions to the Society shall be made by election from printed lists of candidates; the ladies electing from such lists by themselves, and the gentlemen by themselves. The subscription shall be one guinea per annum, commencing from the 1st of January, and payable before the first conversazione in the year, or the membership to terminate.

The union, in this Society, of the best-informed of those who study and love the arts for their amusement, must be agreeable to themselves, and may possibly become eventually beneficial to the interests of art, by inspiring the public mind with a better confidence for their encouragement. The committee of government shall be empowered to make such further rules and regulations, and to make such disposal of all moneys that shall pertain to the Society, as in its judgment and discretion it shall deem fit; and the committee shall not be subject to any annual change, in order that it may retain the consideration in which it is desirable that it should be held by the great body of the artists in the kingdom. The funds of the Society shall be applicable to the necessary expenses of hiring, lighting, and warming the requisite apartments, as also in providing refreshments, and other incidental expenses.

Further information may be obtained of the Honorary Secretary of the Society of Amateurs of Art, care of W. H. Dalton, bookseller, Cockspur Street, London.

ART. VIII. *Obituary.*

DIED, on December 11., at King Edward the Sixth's Almshouses, Saffron Walden, Essex, in his 91st year, *Mr. William Ivory*, formerly a very respectable architect and builder in that town. [We should like much to learn some particulars respecting the life of Mr. Ivory; and, more especially, what cause or causes led to the circumstance of his dying in an almshouse. The biography of such a man may be useful to living architects and builders.]